

PUBLIC-PRIVATE PARTNERSHIPS

Background Papers for the U.S.-U.K. Conference
on Military Installation
Assets, Operations, and Services



Ellen M. Pint, John R. Bondanella, Jonathan Cave, Rachel Hart, Donna Keyser

Arroyo Center
RAND

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Preface

This document describes private-sector involvement in the provision of support services in the U.K. Ministry of Defence (MoD) and the U.S. Army. It provides an overview of U.K. privatization and outsourcing initiatives, and it compares U.K. and U.S. Army activities in housing, base operations, and logistics. It is based upon four background papers prepared for a joint U.S.-U.K. conference on Privatizing Military Installation Assets, Operations, and Services, which was held April 14–16, 2000, at Ditchley Park, Oxfordshire, U.K. The conference was sponsored by the Assistant Secretary of the Army for Installations and Environment and was attended by senior military leaders, government civilians, and industry representatives from the United States and the United Kingdom.

This document and the conference proceedings (Ellen M. Pint and Rachel Hart, *Public-Private Partnerships: Proceedings of the U.S.-U.K. Conference on Military Installation Assets, Operations, and Services*, Santa Monica, CA: RAND, CF-164-A, 2001) should be of interest to government, military, and industry readers who would like to learn about existing U.S. and U.K. outsourcing and privatization efforts, as well as how the military might make more effective use of the private sector in providing support functions.

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Summary

This report provides an overview of private-sector involvement in the provision of support services in the U.K. Ministry of Defence (MoD) and the U.S. Army. First, we provide an introduction to outsourcing and privatization initiatives in the United Kingdom. We then detail the application of these initiatives to housing, base operations, and logistics services in the United Kingdom and offer examples of comparable U.S. Army initiatives. Each chapter ends with "lessons learned," summarizing problems encountered and recommending methods to integrate private-sector organizations and market institutions to improve the performance and reduce the cost of military support services.

The information in this report was originally prepared as background material for a three-day conference on Privatizing Military Installation Assets, Operations, and Services, held April 14–16, 2000, at Ditchley Park, Oxfordshire, U.K. The conference was sponsored by the Assistant Secretary of the Army for Installations and Environment. Participants included senior military leaders, government civilians, and industry representatives from the United States and the United Kingdom. The purpose of the conference was to discuss the British experience with privatization and explore its applicability to the U.S. Army.

OVERVIEW OF U.K. PRIVATIZATION INITIATIVES

In the United Kingdom, a wide range of military support services are performed by unified, cross-service agencies making substantial use of private suppliers and competitive mechanisms. Over the past 20 years, top-down initiatives undertaken by the governments of three Prime Ministers have provided the impetus for this high level of private-sector involvement.

These initiatives can be categorized into three broad types. The first type directly increases private-sector involvement in providing assets and services to MoD (these include Market Testing, Privatization, Competing for Quality [CFQ], the Private Finance Initiative [PFI], Public-Private Partnerships [PPP], and Trading into Wider Markets). The second type incorporates market-like mechanisms into public-sector organizations (these include Executive Agencies, Resource Accounting and Budgeting [RAB], and the implementation of recommendations generated by the Strategic Defence Review and Modernising Government). The third type changes the way MoD conceives and designs contracts with the private sector (these include the Levene Reforms, Building Down Barriers [BDB], the Smart Procurement Initiative, and Restructuring the Industrial Base).

Because of a lack of published data or follow-up studies, it is difficult to assess how these initiatives have affected the cost and performance of specific MoD services. However, there are some more general indicators of MoD's progress in implementing efficiency savings, procurement reforms, outsourcing,

and competition. Over the last few years, these initiatives have helped MoD meet the annual efficiency savings targets of 3–4 percent in its Public Service Agreement with the Central Government. The MoD has also increased the value of work contracted out and the proportion of contracts subject to competition. The National Audit Office's 1999–2000 report on major procurement projects found a slight reduction in forecasted cost overruns but a continued increase in schedule slippage.

Several general lessons learned emerge from a more qualitative review of the U.K. initiatives and experience with greater involvement of the private sector in providing defense support services.

- To be an “intelligent customer,” the MoD must define its requirements in terms of desired outputs or performance, not inputs or tasks to be performed.
- Source selection should emphasize best value for money rather than cost reduction.
- The MoD must take a long-term, strategic view of its requirements and allow for flexibility in its contracts to meet changing needs.
- Contract risks must be identified and allocated to the parties best able to manage them.
- Partnering with contractors promotes continuous improvement over the lifetime of the contract.
- Accurate information on costs and performance is needed to monitor both contractors and in-house providers.
- The MoD must consider which activities are appropriate for private-sector market forces and profit motives, and which might be “inherently governmental.”
- Mechanisms are needed to collect and disseminate information about best practices and lessons learned.

HOUSING

Background

In the United Kingdom, approximately 30 percent of eligible officers and 70 percent of eligible enlisted personnel live in married quarters housing managed by the MoD. Service personnel who live in married quarters pay accommodation charges (based on the size and quality of the house provided) that are deducted from their pay. A 1991 Housing Task Force concluded that the quality of the housing stock was inadequate, and that its high vacancy rates indicated inefficient management. The task force recommended implementation of new management and ownership structures. The Defence Housing Executive (DHE) was created in 1995 to take over the management of all married quarters in England, Scotland, and Wales from the individual armed services. Although the sale of 57,400 married quarters in England and Wales to a private contractor was completed in November 1996, the DHE continues to manage approximately 62,000 married quarters in the United Kingdom, including those that were sold

and are now leased back by the MoD. Barracks spaces are managed by the individual commands responsible for the units housed in them.

The U.S. Army owns and maintains approximately 135,000 family houses and 300,000 barracks spaces worldwide. About one-third of Army families currently live in on-post Army family housing. Army personnel who live on-post pay no rent. Those who live off-post in private-sector housing receive a Basic Allowance for Housing, which varies by rank, family status, and location. On-post family housing is fully occupied at most installations, and there are substantial waiting lists at these installations. This preference is mainly due to the cost advantage of on-post housing. Approximately 78 percent of Army-owned housing is in need of renovation or replacement. The Army plans to eliminate all inadequate family housing by 2010 using a three-part strategy of introducing privatization, maintaining military construction, and increasing housing allowances.¹

U.K. Initiatives

The MoD has undertaken three types of private-sector initiatives to finance MoD housing. First, in 1996, the MoD sold the bulk of its married quarters housing to a private-sector contractor. The MoD leases back housing needed for service families and is responsible for its maintenance and renovation to current standards. The sale transfers to the contractor the risks, as well as the potential rewards, of dealing with married quarters declared surplus by the MoD. However, MoD retains risks, costs, and management responsibility associated with future rental costs and continued maintenance and upgrading of the housing.

Second, the MoD is using PFIs to build married quarters housing in areas where additional long-term housing is needed. The advantages of PFIs are that they allow the MoD to build and upgrade housing without an initial investment of public capital, they give the MoD access to private-sector project and financial management skills, and they usually transfer some risks to contractors.

Third, PFIs are also being used by service commands to renovate barracks accommodation. For example, the Colchester Garrison project is intended to improve the quality of barracks accommodation; co-locate living, working, and training facilities to reduce travel time; reduce the life-cycle costs of the facilities; and release excess property for local development.

U.S. Initiatives

The U.S. Army is also trying to leverage private-sector funds and expertise to improve family housing. In 1996, Congress passed the Military Housing Privatization Initiative, which allows the services to convey land and existing assets to the private sector to encourage investment in housing. Based on this legislation, the Army has privatized housing at Fort Carson, Colorado, under the Community Venture Initiative; it has also begun a Residential Communities

¹Increasing housing allowances would make adequate private-sector housing affordable to more Army families and increase the funds available to pay contractors in housing privatization projects.

Initiative (RCI), which will initially consist of three pilot projects representing approximately 14 percent of the Army's housing stock.

Soldiers living in privatized housing will receive the same housing allowance given to soldiers living off-post, which will be paid as rent to the contractor. The legislation allows these rental payments to be supplemented by additional payments to contractors from appropriated funds if necessary to attract private-sector finance. If the Army's RCI pilot projects are successful, and the enabling legislation is extended beyond its five-year period, the Army hopes to extend the concept to all family housing located in the United States.

Lessons Learned

Several important issues emerge from a detailed review of the MoD's and DoD's experience with housing privatization:

- The military needs to take a strategic view of family housing and barracks privatization contracts and determine how these contracts could affect future decisions to relocate units;
- Evaluations of quality and cost tradeoffs in selecting contractors should account for the link between housing quality and personnel retention;
- Competitive tendering rules must be crafted to encourage the selection of the design offering best value for money;
- Commercial building standards offer cost advantages over military building standards; and
- Political influence can lead to suboptimal contracts.

BASE OPERATIONS

Background

The MoD has been making greater use of the private sector to provide base operating support services since 1979. (We define base operations to include support services provided on installations and in deployment, as well as construction and property management.) Under the government's 1985 Market Testing initiative, MoD was required to conduct public-private competitions for the provision of "simple" service functions, including catering and minor maintenance. Since then, MoD has expanded market testing to more complex functions in order to achieve greater savings. In 1995, MoD formed Defence Estates (DE) to provide professional advice and service to support the management of MoD land, buildings, and installations.

U.S. military bases are operated by each service rather than by a centralized organization akin to DE. Funds flow from DoD to the Army and then to major subordinate commands. Congress places many constraints on the U.S. Army's ability to outsource or privatize base operating support functions. Any support activity that employs more than 10 government civilians cannot go directly to contract—it must be subject to a public-private competition. From fiscal year (FY) 1979 through 1996, the Army completed 468 public-private competitions, covering 15,300 positions. The Army's installation commanders have not

typically been strong supporters of outsourcing, because it limits their ability to reallocate funds among activities during the budget year.

U.K. Initiatives

The MoD has undertaken a range of private-sector initiatives to provide military base operations services. In 1994, MoD implemented the outsourcing of food supply and delivery. Under this initiative, the order submission and processing times from unit to depot have been reduced from two or three weeks to two days. Customer satisfaction with the new system has been high, and cost savings significant.

The Defence Evaluation and Research Agency (DERA) privatized its support services division in 1996 to reduce its overhead costs and improve its focus on its primary business of research, technology, and test and evaluation services. As a trading fund agency, DERA must recover its costs through charges to both MoD and external customers. The privatization resulted in a one-time increase in revenue and an ongoing reduction in support costs. These savings have been passed on to customers through lower prices.

An MoD initiative to improve construction and property management began with the adoption of new business processes under DE. This initiative, which emphasizes "prime contracting," relies on a single prime contractor to take responsibility for managing all aspects of facilities projects, and on the government to specify desired outcomes or results rather than listing specifications for the desired structures. Two pilot projects testing this approach have resulted in lower construction time, life-cycle costs, and material waste, and increased labor efficiency.

One of MoD's most innovative proposals for private-sector involvement in operating support services is the use of a PFI to provide tanker aircraft for in-flight refueling. In devising this contract, MoD faces the difficult task of balancing the risks between the contractor and the Royal Air Force (RAF), and ensuring that contractor-employed crews will fly when in-flight refueling must be accomplished in a high-threat environment.

U.S. Initiatives

In 1995, the Clinton Administration began an initiative to generate funds for equipment modernization by increasing the number of public-private competitions for base support functions. In response, the Army has pledged to compete 73,000 positions and to achieve cumulative cost savings of \$3.1 billion over the FY00–FY05 period. However, it may be difficult for the Army to attain such ambitious goals.

One example of a major base operations support contract is the National Training Center (NTC) at Fort Irwin, California. The NTC was built by a civilian contractor on Army-owned property in the early 1980s, and the original contractor continued to provide base operations support services until the mid-1990s. At that time the NTC contract was divided into two separate contracts in order to improve performance and provide better management information to

customers. The NTC is gradually moving toward a more outcome-oriented method of contracting, but its current contracts are still based primarily on detailed specifications of inputs or tasks.

The Army and the DoD have also used contractors to provide supplemental cargo aircraft and deployed base support operations. The DoD's Civil Reserve Aircraft Fleet program—through which the government invests in civilian aircraft fleets and contractors provide aircraft during deployments—was used to fly supplies and soldiers during the Vietnam War and Operation Desert Shield, and for humanitarian supply missions to Europe for Kosovo refugees. Since 1995, the U.S. Army has contracted with the Brown and Root Services Company for base operating support activities in the Balkans. These services include building temporary housing, erecting tents, coordinating food services, repairing roads on installations, managing waste, generating power, and providing transportation services.

Lessons Learned

A more detailed review of U.K. and U.S. initiatives in base operations reveals the following themes:

- Contractor performance must be monitored and incentive payments tied to performance metrics;
- Follow-up programs must be devised to determine whether contracting achieves the anticipated savings or quality improvements;
- Incentives must be created for the incumbent contractor to improve performance over time, or competition to provide the service must be constantly renewed;
- Appropriate flexibility of funds must be preserved;
- The military customer must ensure that the contractor has the capability to perform the desired services; and
- The military customer must establish criteria for using contractors both in garrison and on deployment to ensure effective support during contingencies.

LOGISTICS

Background

In 1998 the Labour Government decided to combine the logistics commands of the United Kingdom's three military services into a joint logistics command, the Defence Logistics Organisation (DLO). In addition to reducing support costs, the consolidation was intended to improve support of joint operations and to rationalize functions and processes on a defense-wide basis. The DLO receives a directly appropriated budget rather than being supported by customer funds.

U.S. Army Materiel Command manages the wholesale supply and depot-level maintenance of Army-unique repairable and consumable spare parts. Nonunique consumable items are managed for all three services by the Defense Logistics Agency, which also operates supply depots for the services.

Nonmilitary items, such as office supplies, equipment, and furniture, are managed by the General Services Administration. Installation Directorates of Logistics also have a significant role in General Support, or intermediate-level, repair.

The Army and DoD use working capital funds to create financial incentives for customers to make efficient use of logistics resources and for suppliers to identify and reduce support costs. Under this funding mechanism, customers in operating units receive budgets to buy services from logistics suppliers, and suppliers set prices (and credits for returned items) to recover their operating costs. As a result of these relationships, operating units have a strong financial incentive to seek the lowest-cost sources of supply and repair, assuming that quality and responsiveness are comparable.

U.K. Initiatives

The reorganization of the individual services' logistics commands into the DLO began in 1999. The DLO will contain "decider" and "provider" business units. The "decider" business units will act as middlemen, negotiating Customer Supplier Agreements with the services' operating commands to provide spares, repairs, modifications, and technical and safety information. Under these agreements, the "decider" units can then obtain support services from the in-house "provider" units or from external contractors. MoD expects DLO to more efficiently meet the requirements of joint and force projection operations, and to promote cost savings and business practice improvements.

In 1993, the MoD began a major private-sector initiative to privatize two depot-level maintenance providers for the Royal Navy. Since 1987, these dockyards had been managed as Government Owned Contractor Operated (GOCO) facilities. The privatization had several purposes: to promote competition for surface ship refitting, to generate cost savings on future refitting work, to transfer liabilities to the new owners, and to maintain the Royal Navy's capability to refit nuclear submarines.

The MoD is currently implementing PFIs in logistics and related areas, including three pilot projects to obtain noncombat vehicles. Under one of these contracts, the RAF White Fleet PFI project, the contractor bought the RAF's fleet of noncombat vehicles and has a five-year contract to manage and maintain it; the MoD pays a monthly service charge per vehicle. MoD logistics organizations currently have a number of additional PFI and PPP projects in various stages of procurement.

U.S. Initiatives

External constraints on innovative outsourcing and privatization projects have led the Army to focus on creating innovative internal incentives and logistics process improvements. In response to a management directive from DoD, the Army implemented stock funding of depot-level reparables (DLRs) in 1992. This initiative resulted in a 20 percent reduction in demand for DLRs, and a DoD-wide savings of approximately \$500 million per year. However, the Army

may need to adjust its price and credit policies for DLRs to ensure that it is motivating cost-effective behavior by logistics customers and suppliers.

The Army is also adopting some of the technological and managerial innovations that have proved successful in private-sector logistics. The Army implemented the Velocity Management (VM) initiative in 1995 in order to create a supply chain that was more effective, less costly, and more easily adaptable in the face of unpredictable requirements. Under VM, order-and-ship times for spare parts at most U.S. active-duty installations have been dramatically improved. This, in turn, has allowed the Army to improve its repair and stockage determination processes.

From 1997 to 2000, the Army considered two proposals for greater private-sector involvement in weapon system support, Fleet Management for the M109 self-propelled howitzer and Prime Vendor Support for the Apache helicopter. Both of these proposals faltered for various reasons, including congressional opposition, financial issues concerning decapitalization of working capital fund inventories, and the scope for cost savings and contractor profitability.

Lessons Learned

Several important issues emerge from a detailed review of the MoD's and the U.S. Army's experiences with logistics initiatives:

- Internal incentive mechanisms can help the military make more efficient use of logistics resources;
- Incumbent contractors or original equipment manufacturers often have an advantage in competitions for complex services;
- Contracts must be flexible in order to adapt to changing logistics needs;
- Internal providers and contractors must be integrated into a single military supply chain to avoid fragmentation of the logistics system;
- Internal cost accounting systems should be capable of providing accurate comparisons with contractor costs; and
- Innovative outsourcing contracts are difficult to implement if too many independent decisionmakers must approve.

COMPARISONS AND CONCLUSIONS

When we compare progress in implementing the three types of initiatives described in the U.K. overview (directly increasing private-sector involvement, introducing internal reforms, and improving contracting processes), we find that the DoD has implemented similar internal reform and contracting process initiatives but has lagged behind the MoD in outsourcing and privatization initiatives. The DoD's A-76 public-private competition process resembles the MoD's 1980s Market Testing program. It primarily involves single functions, defines requirements in terms of inputs or task lists instead of outputs or performance, and allows the public-sector provider to streamline itself to compete with the private sector. Only a few programs, such as the Military Housing Privatization Initiative, are comparable to the Private Finance Initiative,

which involves private-sector investment in assets used to provide support services.

One factor impeding DoD's progress in making more effective use of the private sector is a lack of agreement among senior administration, congressional, and military leaders. To convince skeptics, the DoD needs to demonstrate the potential benefits of outsourcing and privatization by implementing better contracting practices within existing programs and regulations. The lessons learned from the U.K. and U.S. experiences with outsourcing and privatization include many recommendations that could be implemented by DoD.

Abbreviations

ABRO	Army Base Repair Organisation
ACSIM	Assistant Chief of Staff for Installation Management
AMC	U.S. Army Materiel Command
ATEC	U.S. Army Test and Evaluation Command
ATRA	Army Training and Recruiting Agency
AWCF	Army Working Capital Fund
BAH	Basic Allowance for Housing
BAQ	Basic Allowance for Quarters
BDB	Building Down Barriers
B&R	Brown and Root Services Company
CCT	Compulsory Competitive Tendering
CDL	Chief of Defence Logistics
CDMP	Community Development and Management Plan
CECOM	Communications-Electronics Command
CFO	Chief Financial Officer
CFQ	Competing for Quality
CFS	Chief of Fleet Support
CIS	Communications and Information Systems
CLS	Contractor Logistics Support
CORM	Commission on Roles and Missions
CRAF	Civil Reserve Aircraft Fleet
CSA	Customer Supplier Agreement
CSR	Comprehensive Spending Review
DARA	Defence Aviation and Repair Agency
DCDL	Deputy Chief of Defence Logistics
DE	Defence Estates
DERA	Defence Evaluation and Research Agency
DG ES	Director General Equipment Support
DHE	Defence Housing Executive

DLA	Defense Logistics Agency
DLO	Defence Logistics Organisation
DLR	Depot-Level Reparable
DMI	Define-Measure-Improve
DMRD	Defense Management Review Decision
DoD	Department of Defense
DoL	Directorate of Logistics
DPA	Defence Procurement Agency
DPW	Directorate of Public Works
DRI	Defense Reform Initiative
DRID	Defense Reform Initiative Directive
DS	Direct Support
DSSD	DERA Support Services Division
DWCF	Defense Working Capital Fund
EU	European Union
FLR	Field-Level Reparable
FORSCOM	U.S. Army Forces Command
FY	Fiscal Year
GAO	General Accounting Office
GOCO	Government Owned Contractor Operated
GS	General Support
GSA	General Services Administration
HM	Her Majesty's
HQDA	Headquarters Department of the Army
HRSO	Housing Revitalization Support Office
IPT	Integrated Project Team
IT	Information Technology
KFOR	Kosovo Peacekeeping Force
LC	Logistics Command
MDW	U.S. Army Military District of Washington
MEDCOM	U.S. Army Medical Command
MEO	Most Efficient Organization
MHE	Materiel Handling Equipment
MoD	Ministry of Defence

MSC	Major Subordinate Command
MSHATF	Medium Support Helicopter Aircrew Training Facility
MWR	Morale, Welfare, and Recreation
NAAFI	Navy, Army, and Air Force Institutes
NAO	National Audit Office
NAPNOC	No Acceptable Price, No Contract
NBSA	Naval Bases and Supply Agency
NTC	National Training Center
O&M	Operations and Maintenance
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
OST	Order-and-Ship Time
PAC	Public Accounts Committee
PFI	Private Finance Initiative
plc	Public Limited Company
POM	Program Objective Memorandum
PPP	Public-Private Partnerships
PVS	Prime Vendor Support
PWS	Performance Work Statement
QDR	Quadrennial Defense Review
QMG	Quartermaster General
RAB	Resource Accounting and Budgeting
RAF	Royal Air Force
RCI	Residential Communities Initiative
RFP	Request for Proposals
RFQ	Request for Qualifications
RSF	Retail Stock Fund
RX	Reparable Exchange
SET	Science, Engineering, and Technology
TACOM	Tank-Automotive and Armaments Command
TADS-PNVS	Target Acquisition and Detection System and Pilot Night Vision System
TAFMIS	Training Administration and Financial Management Information System

TRADOC	U.S. Army Training and Doctrine Command
TUPE	Transfer of Undertakings (Protection of Employment)
U.K.	United Kingdom
U.S.	United States
USAAA	U.S. Army Audit Agency
USARC	U.S. Army Reserve Command
USARPAC	U.S. Army Pacific Command
VHA	Variable Housing Allowance
VM	Velocity Management
WSF	Wholesale Stock Fund

1. Introduction

The U.S. Department of Defense (DoD) and the U.K. Ministry of Defence (MoD) both have seen their budgets reduced by 30 percent in real terms since their Cold War peaks in the mid-1980s, and both now face similar challenges in paying for force modernization. Although their respective force structures have been reduced, much of the budget reductions have come out of procurement. During this "procurement holiday," existing equipment has aged, and the need to replace key weapon systems has become more urgent, particularly in the United States. However, large increases in total defense budgets seem unlikely in either country. As a result, the DoD and the MoD have sought to reduce infrastructure and support costs in order to finance modernization.

Within this context, privatization and outsourcing of military support functions have become attractive options, not only to reduce costs, but to improve performance by introducing more efficient private-sector business practices. The initial impetus for greater reliance on the private sector came from the ideological convictions of the Reagan Administration in the United States and the Thatcher Government in the United Kingdom. However, the emphasis on greater reliance on the private sector has survived, and even intensified, despite changes in political administrations in both countries (the election of the Clinton Administration in 1992 and the Blair Government in 1997), and this is likely to continue as long as private-sector involvement is seen as a means to improve performance and reduce costs.

In 1980, the United Kingdom had a smaller base of private-sector involvement in defense manufacturing and services than the United States. For example, the government still owned some of the major defense manufacturers, such as British Aerospace, Rolls-Royce, Shorts, and British Shipbuilders. Since 1980, the United Kingdom has caught up to the United States with an aggressive program of privatization, public-private competition, outsourcing, and private finance initiatives; and in some areas the United Kingdom has overtaken the United States, particularly in terms of the innovative proposals the MoD is considering for private-sector provision of defense support services and assets.

The DoD has many programs and initiatives with parallels to those in the United Kingdom. In the 1990s, the Clinton Administration and the DoD advocated public-private competition and outsourcing to reduce support costs, along with acquisition reform to improve the contracting process. Although the DoD has made some progress with public-private competitions, this process seems to have reached a plateau. Members of Congress are very protective of military bases, DoD civilian jobs, and military construction spending in their states or districts. Senior military leaders have not been convinced that the private sector is as reliable as in-house providers, and they fear that contracting with the private sector will reduce their flexibility to reallocate funds among competing priorities.

To learn from the British experience with the strengths and weaknesses of outsourcing and privatization, the Assistant Secretary of the Army for Installations and Environment organized a joint U.S.-U.K. conference on Privatizing Military Installation Assets, Operations, and Services, held April 14–16, 2000, in Ditchley Park, Oxfordshire, U.K. Participants included senior military leaders, government civilians, and industry representatives from the United States and the United Kingdom.² The material in this document was compiled as background information for the conference, primarily to familiarize U.S. participants with outsourcing and privatization initiatives in the United Kingdom, and to provide parallel information about U.S. Army initiatives in the focal areas of the conference: housing, base operations, and logistics.

The remainder of this document is organized as follows. In Chapter 2, we present an overview of U.K. outsourcing initiatives, along with supporting initiatives that introduced market forces into public-sector organizations or reformed the contracting process. Chapters 3 through 5 provide examples of the application of these initiatives in the areas of housing, base operations, and logistics. Each chapter presents background information on how services are currently provided in the MoD and the U.S. Army, describes major initiatives in both organizations, and discusses lessons learned. We conclude with a comparison of progress on outsourcing and privatization of defense support services in the United States and the United Kingdom and a summary of the lessons learned.

²A list of conference participants is given in Appendix A.

2. U.K. Overview

This chapter discusses the recent history of outsourcing and privatization in the provision of military support services in the United Kingdom, with an emphasis on top-down government initiatives that have provided the impetus for change. After a brief introduction, we describe three types of reforms delivered by the initiatives. Next we outline each of the initiatives in some detail. We examine some of the collective effects of the initiatives and, finally, we derive a set of general “lessons learned” from U.K. experience with outsourcing and privatization.

INTRODUCTION

Over the past 20 years, the U.K. MoD has successfully incorporated competitive contracting and market forces into the provision of defense support services. In 1980, the government was the provider of most military support services. Today, a wide range of services—including logistics, real estate management, housing, procurement, and other functions—are performed by unified, cross-service agencies making substantial use of private suppliers and competitive mechanisms. The evolution to this market-based system was driven by reform initiatives undertaken by the governments of three Prime Ministers: Margaret Thatcher (Conservative Party, 1979–1990), John Major (Conservative Party, 1990–1997), and Tony Blair (Labour Party, 1997–present).³

Shortly after her election as Prime Minister in 1979, Thatcher conceived the Market Testing initiative, the first of the reforms discussed in this chapter. The motivation for involving the private sector and incorporating market mechanisms into public-sector activities was derived from a long history of public dissatisfaction with the economy, efficiency, and effectiveness of public-sector service provision. Thatcher’s ideology reflected a widespread perception that private-sector organizations might be better placed than the public sector to accept and manage some kinds of risk, to respond quickly and efficiently to changes, to develop innovative solutions, and to offer the best value for money. These perceived private-sector advantages were based on confidence in the mediating role of markets and modern business practices with regard to contracting, accounting, workforce management, and business administration. At the same time, the Thatcher ideology recognized that involvement of private

³U.K. government initiatives are less likely to be modified or impeded by Parliament than U.S. presidential initiatives are by Congress. In contrast to the U.S. political system, the U.K. parliamentary political system does not have a separation between the legislative and executive branches. The Prime Minister is the leader of the party that holds the majority of seats in the House of Commons, and the government is typically able to implement its intended policies because members of parliament (MPs) normally vote along party lines. Individual MPs show greater party loyalty than U.S. representatives and senators because they are strictly limited in individual campaign spending and the political parties control the candidate selection process.

firms per se is neither necessary nor sufficient for the realization of these goals and that some functions must remain within the MoD.

The reforms set in motion by the Thatcher Government continued after John Major replaced her as Conservative Party leader in 1990, and they were further intensified after the Labour Party's election victory in 1997. Under Labour Prime Minister Tony Blair, however, the impetus for outsourcing and privatization reforms shifted from mostly ideological to mostly pragmatic. The U.K. defense budget, scaled back at the end of the Cold War, has continued to shrink in real terms. The MoD, like the U.S. DoD, is faced with aging equipment and weapon systems. Introducing money-saving innovations in support services and relying on the private sector to finance capital expenditures based on future operating cash flows allow the MoD to modernize systems without further cutting force structure.

TYPES OF INITIATIVES

The U.K. MoD has changed its attitude and approach to greater private-sector involvement in defense support services through three types of initiatives. These initiatives involve:

- Selecting appropriate areas for outsourcing and privatization and developing a strategy for proceeding;
- Reforming public-sector organizations to mimic private-sector market forces; and
- Changing the way the government contracts—for both goods and services—with private-sector providers.

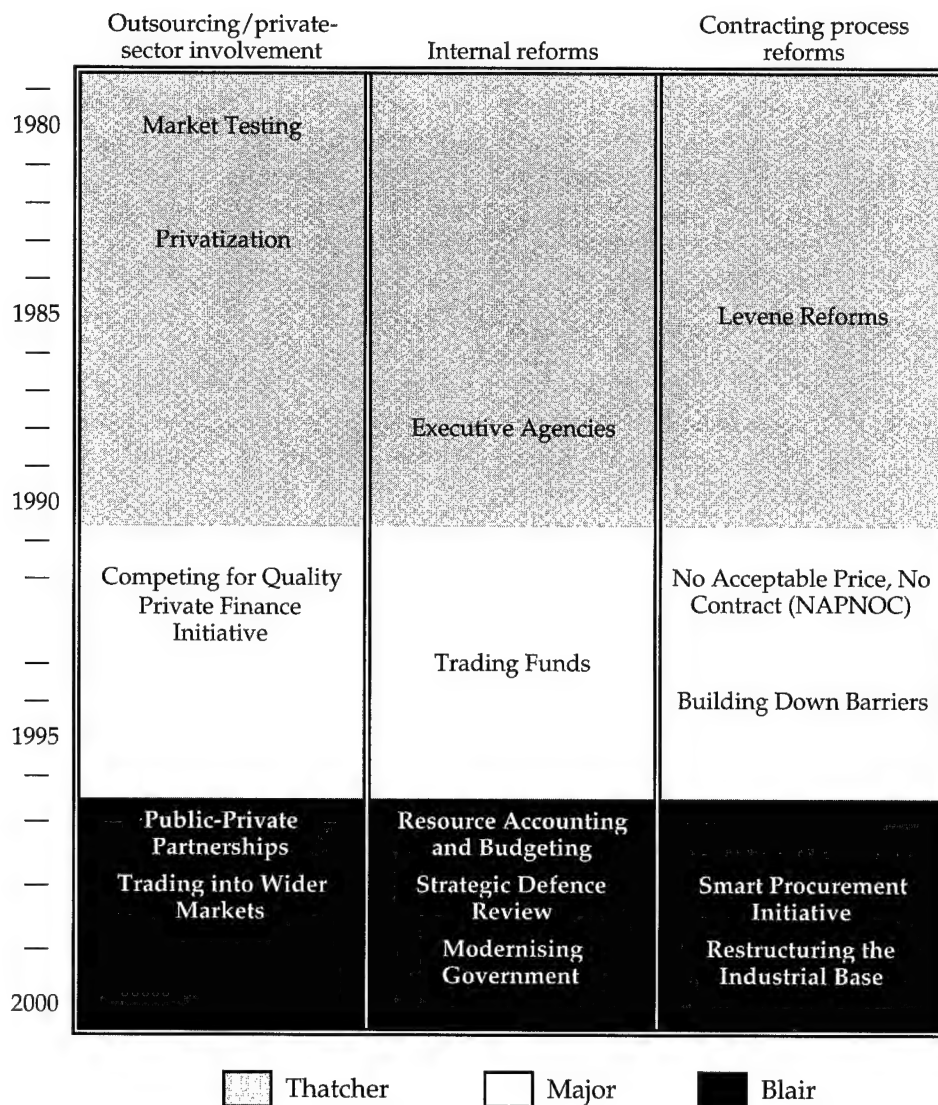
This section discusses the broad outlines and evolution of each category of initiatives. Table 2.1 shows the timeline of the initiatives discussed below.

Outsourcing and Privatization Initiatives

The first category of initiatives constitutes the main track of outsourcing and privatization reforms. These initiatives directly involve the private sector in MoD activities. They encompass a range of activities, including privatization, public-private competition, outsourcing, and private finance initiatives. Before 1980, the private sector provided goods and components, but military support services were primarily “in-house” activities. Initiatives chartered by the Thatcher Government generated momentum for using the private sector to provide services. Initially, “simple” support services such as laundry, food service, and janitorial service were targeted for outsourcing. Subsequent initiatives in this category have targeted increasingly complex functions and services.

Collectively, the initiatives in this category radically changed the depth and breadth of private-sector involvement in military support services. The private sector moved from providing goods to providing basic support services using MoD assets and then to providing complex services that require substantial investment and asset ownership. The result of this evolution is that the

Table 2.1
Timeline of Major U.K. Initiatives



government has been able to transfer capital investment into private hands and, in many cases, transfer risk from the public sector to the private sector.

Internal Reform Initiatives

The second category of initiatives aims to incorporate market-like mechanisms into public-sector organizations and functions. These initiatives were undertaken with the recognition that although some service functions are not appropriate for private-sector involvement, market forces compel industry to be more attuned than government bureaucracies to customer satisfaction and

cost efficiency. In 1988, the Thatcher Government's Next Steps initiative was intended to convert government departments that provide services into dynamic executive agencies, accountable to their customers and sensitive to the bottom line. Recent initiatives in this category have aimed to reform MoD accounting procedures so they more closely match those used in the private sector, an innovation that will create internal incentives to use resources more efficiently and allow MoD to compare its own costs more accurately with those of industry. Taken together, the initiatives in this category create market-like forces wholly within the government, allowing the public sector to take on some of the positive attributes long associated with the private sector.

Contracting Process Reform Initiatives

Increasingly complex relationships between MoD and private industry have been facilitated by initiatives in the third category: reforming the way the government structures contracts with private-sector organizations. Under Thatcher, these initiatives were designed to reform a chronically inefficient and expensive procurement process. Subsequent initiatives in this category (under Major and Blair) further refined the procurement process, but they increasingly encompassed the procurement of services in addition to goods. Efficiently implementing new types of private-sector involvement required innovations in contracting, which these initiatives encouraged. Taken together, initiatives in this third category have made MoD contracts with private-sector entities "output-based" rather than "input-based." In other words, rather than detailing all the elements that go into providing a service, MoD contracts are increasingly oriented toward desired results. This system makes contractors collaborators and partners in long-term projects and fosters innovations in service provision. Further, it requires MoD to be an active and intelligent customer and to consider quality and past performance as well as costs when awarding contracts.

Resulting Organizational Forms

Table 2.2 illustrates the characteristics of the organizational forms that have resulted from the three types of initiatives, ranging from the least to the most market or private-sector involvement. Under traditional organic provision of support services, the supplier often is not explicitly distinguished from the customer, the government owns the assets, and the supplier receives a budget to finance the services it decides to provide. One of the internal reform initiatives to introduce market-like mechanisms into public-sector organizations involved the creation of Executive Agencies, which introduced an explicit separation between customers and suppliers. Customers are given input into the services provided through Service Level Agreements or Customer Supplier Agreements, but the supplier still receives its own appropriated budget, which may limit the services it can provide. Executive Agencies can be subject to another type of internal reform, the trading fund, which gives the budget for services to the customer, who can then decide the type and quantity of services it wants to buy from the supplier.

Table 2.2
Characteristics of Organizational Forms

Form	Supplier	Asset Owner	Source of Funds
Traditional organic	Not distinguished from customer	Government	Appropriated budget
Executive Agency (budgeted)	Separated from customer	Government	Appropriated budget
Executive Agency (trading fund)	Separated from customer	Government	Customer budget
Market Testing/Competing for Quality	Contractor	Government (GOCO)	Customer budget
Privatization	Contractor	Sold to contractor	Customer budget
Private Finance Initiative	Contractor	Built by contractor	Customer budget

Outsourcing and privatization initiatives resulted in the remaining three organizational forms. Under the Market Testing and Competing for Quality initiatives, contractors compete (or undergo a cost comparison) with internal providers of services. If contractor provision is more cost-effective, the contractor becomes the supplier of services but performs them using government assets or facilities. These arrangements are sometimes called Government Owned Contractor Operated (GOCO) facilities. Under privatization, assets owned by the government are sold to a contractor, who then becomes the provider of the associated services. Under the Private Finance Initiative, the contractor finances and builds the assets used to provide services, based on cash flows anticipated under a long-term contract.

Each of the three categories of initiatives is discussed in greater detail in the sections below. Short definitions of each initiative and other key terms are given in Appendix B.

OUTSOURCING AND PRIVATIZATION INITIATIVES

We begin this section by discussing initiatives explicitly related to outsourcing and privatization, which were used to introduce greater private-sector involvement in the provision of military support services.

Market Testing and Compulsory Competitive Tendering

Market testing—begun in the early 1980s—is a process used by government departments to assess whether the services for which they are responsible are best delivered in the public or private sector. It involves a competition between an in-house team and external bidders. If an external team wins, a contract is negotiated and the conditions of personnel transfer examined to see whether the European Union (EU) Transfer of Undertakings (Protection of Employment) or

TUPE regulation applies.⁴ If the in-house team wins, a Service Level Agreement between the customer and supplier organizations is created in lieu of a contract.

In 1985, the Thatcher Government mandated that the MoD market test catering, cleaning, laundry, security guarding, and minor maintenance. The MoD later expanded market testing to other, “nonmandatory” areas such as engineering, supply, range operation and support, and training to increase the potential scope for cost savings. Over the 1987–1992 period, 246 activities valued at £105 million were competed, with an average first-year savings of 24 percent.⁵ (The results of market testing are discussed in greater detail in Chapter 4, Base Operations.) Although market testing is still an option, in practice its screening process has been adapted to take into account subsequent initiatives—specifically the Private Finance Initiative and Public-Private Partnerships.

The concept of market testing was also extended to local governments under Compulsory Competitive Tendering (CCT). From about 1992 to 1997, local government authorities (and some other organizations) were obliged to conduct competitive tendering procedures for a range of services provided to the public. Although not directly binding on MoD, CCT affected some aspects of housing and base operations and provided a rich “natural experiment” for evaluating the opportunities and pitfalls associated with tendering. In practice, most first-round competitions were won by Direct Service Organisations, former public-sector service providers spun off for the purpose of meeting the CCT requirements. The small scale, high frequency, and political nature of the competition process meant cost savings were neither uniform nor directly traceable to competition; in many cases tenders drew only a single “serious” bidder. There was further evidence of incumbent advantage at the second round of competitions in which incumbents dominated contract awards, often with no serious competitors. The CCT requirement was eventually dropped on the grounds that it offered poor value for money relative to voluntary contracting out.

Privatization

When the Thatcher Government took office in 1979, several major defense firms, including British Aerospace (military and civil aircraft and weapon systems), Rolls-Royce (aircraft engines), Short Brothers and Harland (aircraft and aircraft components), British Shipbuilders (civil and defense shipbuilding), and Royal Ordnance (tanks and munitions), were owned by the government. Most were privatized, i.e., their assets had been sold to the private sector, by the end of the 1980s.

⁴The TUPE regulations require the new employer to take over the employment contracts of all the employees in the undertaking at the time of the transfer, on the same terms and conditions of employment. Employees can be dismissed if “there is an economic, technical or organisational (ETO) reason entailing a change in the work force,” but they are entitled to severance pay under their previous terms and conditions of employment. See Ministry of Defence, Defence Contracts Temporary Memorandum 38/98, July 1998.

⁵See Committee of Public Accounts, Fortieth Report, *Ministry of Defence: Competition in the Provision of Support Services*, May 1993.

The largest and most financially sound firms were sold in share issues to the public. The government sold approximately half of its stake in British Aerospace for £149 million in February 1981 and the remainder for £550 million in May 1985. Rolls-Royce was sold for £1.36 billion in May 1987. The smaller and financially shakier firms were sold to corporate buyers or in management buy-outs. Nine subsidiaries of British Shipbuilders were sold to other firms in 1983, and a further 11 were sold in management buy-outs and buy-ins (where an outside team of entrepreneurs acquires the firm) between 1984 and 1991. These subsidiaries included the warship yards Vickers and Yarrow, and the submarine builder VSEL. Royal Ordnance was sold to British Aerospace for £190 million in 1987.⁶

The privatization of defense firms was part of a broader government privatization policy with the goals of improving efficiency, reducing government borrowing, reducing government involvement in enterprise decisionmaking, and encouraging wider share ownership by individuals. In many cases, privatization also generated substantial revenues for the government, which were used to offset taxation or reduce government debt. Combined with procurement reforms, privatization was successful in improving the performance of defense firms. For example, British Aerospace earned profits of £68 million on sales of £894 million prior to privatization in 1978–1979; in 1986 it earned profits of £182 million on sales of £3.14 billion. Its share price rose from 171 pence after the initial share offering in 1981 to 420 pence after the second offering in 1985.⁷

For the most part, defense privatization involved firms that sold goods to the MoD rather than services. However, the Major Government completed privatizations of married quarters housing and the Royal Dockyards (discussed in greater detail in the chapters on housing and logistics, respectively).

Competing for Quality

The Major Government expanded and renamed the market testing initiative and linked it to civil service reforms devised in the 1980s to bring private-sector discipline to public services. The 1991 *Competing for Quality* (CFQ) White Paper set out proposals for competition in service provision in Central Government and the National Health Service. The initiative set market testing targets for all Central Government departments and agencies. All government functions were reviewed and sorted into three categories:

- *Inappropriate for government*; should be abolished or privatized.
- *Inappropriate for government delivery*; should be contracted out to private-sector organizations.
- *Appropriate for government*; decentralize to specific agencies or local government. Subject to private-sector disciplines, especially competition.

⁶See John Vickers and George Yarrow, *Privatization: An Economic Analysis*, Cambridge, MA: MIT Press, 1988, pp. 125 and 161–166; Mike Wright, Steve Thompson, and Ken Robbie, “Management Buy-outs and Privatization,” in Matthew Bishop, John Kay, and Colin Mayer (eds.), *Privatization and Economic Performance*, Oxford: Oxford University Press, 1995, pp. 313–335; and Cento Veljanovski, *Selling the State: Privatisation in Britain*, London: Weidenfeld and Nicolson, 1988, p. 125.

⁷See Vickers and Yarrow, *op. cit.*, pp. 142, 157, and 174.

Services remaining with public agencies were required to be continuously market tested. By 1998, reviews of some £2.6 billion of activities in all government departments (including the MoD) led to annual savings of £544 million and overall civil service staff reductions of 20,000.⁸

MoD activity under CFQ commenced in April 1992. By the end of 1997, 163 activities totaling £1.5 billion had been reviewed, resulting in MoD-estimated savings of £335 million per year. By 1998, activities totaling some £659 million had been subjected to competition, producing savings of more than 22 percent (£149 million by MoD estimates). Competitions involved both external and in-house bidders; winning external bidders were offered negotiated contracts, while winning in-house teams signed Service Level Agreements.

MoD savings estimates for CFQ do not fully account for monitoring costs, the outcome of profit-sharing arrangements,⁹ the spillover effects of changing workloads, or the outcome of projected indirect cost savings. The estimates also focus on that part of the activity subject to competition, rather than whole-system, life-cycle costs. In particular, under some contracts MoD provided equipment or supplies without charge to contractors, who therefore had no direct incentive to economize on their use. The U.K. National Audit Office's (NAO) review of one such project (the Nimrod Major Servicing Unit) suggests that annual spares costs increased by £0.7–£1.5 million after contracting out, reducing savings by 19–40 percent.¹⁰ An NAO assessment of six major competitions (representing 25 percent of the activities competed under CFQ by value) found that service quality¹¹ had improved in five projects (the exception being the Nimrod case). The MoD developed guidance and staff training to encourage symmetrical treatment of in-house and external bids.

The NAO review drew specific attention to eight important features of CFQ:

- **Selecting activities for competition and developing contracts.** The MoD emphasized competition for large activities (costing at least £5 million per year). To foster innovation, contracts emphasized outputs rather than processes, and a joint MoD-industry working group was created to elicit further new ideas.
- **Transferring risk.** Value for money is best achieved by placing risk with the party best able to manage it. MoD analyses of risk transfer were generally regarded as fair and appropriate by contractors, but risk analyses tended to concentrate on risk transfer as opposed to joint risk management and were sometimes hampered by data problems.
- **Maintaining effective competition.** In most cases at least two qualifying bidders competed, and the MoD was sensitive to the importance of genuine competition when contracts were rebid. It is still too early to tell whether incumbency advantage will prove problematic for recompetition of contracts.

⁸National Audit Office, *Ministry of Defence: Competing for Quality*, London: The Stationery Office, May 1998.

⁹Outcomes of profit-sharing arrangements were unknown at time of estimation and had not always been finalized when the contract was signed.

¹⁰National Audit Office, *Ministry of Defence: Competing for Quality*, May 1998.

¹¹Measured by availability, turnaround times, and customer satisfaction surveys.

- **Evaluating external bids.** Although the MoD and HM Treasury stressed that there was no obligation to accept the lowest qualifying bid, in most cases that was the result. Tradeoffs among cost, quality, and schedule were made without reference to formal criteria. Large differences between in-house and external bids were hard to explain, and computing the “level playing field” adjustments that compensated for differences in joint, overhead, and nonwage personnel costs also proved difficult.
- **Evaluating in-house bids.** The MoD adjusted in-house bids for hidden costs. These adjustments also included indirect cost savings, but in practice these estimates proved difficult to make.
- **Ensuring fair competition.** The MoD took careful steps to give all bidders symmetrical information and equal opportunity to present proposals. Members of in-house bidding teams were barred from evaluating bids, and independent observers were appointed when firms or unions requested them.
- **Estimating the costs and delay incurred by the competitive process.** The six cases examined by the NAO generated contracting costs (excluding senior management time) of around 1 percent of the contract value. However, no formal budget controls were imposed on competition costs. The competitions took between 18 and 28 months to complete, compared to an MoD guideline of 24 months.

On the general issue of contract monitoring, the MoD and the NAO agreed that too little monitoring could lead to underperformance but that too much monitoring amounted to the MoD taking on management responsibilities (and, in contractual terms, risk) that properly belonged with the contractor. The MoD requires retrospective evaluation of all competitions, and it has been working to create a central repository for this information.

Private Finance Initiative

The Private Finance Initiative (PFI)—originally introduced by the Major Government in 1992 and expanded by the Blair Government—requires the MoD to examine the feasibility and cost-effectiveness of private-sector service provision using private-sector investment and assets.¹² It differs from market testing and CFQ in requiring private-sector investment, management, and operation of capital assets. The public-sector client pays for service delivery via a long-term contract (usually at least 10 years, except for Information Technology (IT) projects).¹³

A 1997 review of PFI led to a government commitment to use it as a vehicle for delivering public-private partnerships. Current MoD policy requires project managers to demonstrate that PFI is unlikely to deliver better value for money

¹²Under current MoD policy, PFI is part of a range of alternatives considered in the required Prior Options Review of each support activity. The other options include ceasing activity, implementing internal efficiency measures, privatization, partnering, non-PFI contracting out, market testing, and creation of an Executive Agency.

¹³The Army mail contract runs for 7 years; the Medium Support Helicopter Aircrew Training Facility contract runs 40 years.

before committing MoD capital funds.¹⁴ One advantage is that PFI allows the MoD to avoid the budget spikes that are required to fund conventional public-sector capital investment by converting upfront capital costs into annual expenses.¹⁵ A more profound advantage is that PFI can lead to better life-cycle costing.

Typically, MoD PFI contracts are service supply contracts in which the MoD pays the preponderance of project costs in exchange for satisfactory services or output. Projects are considered for PFI if they require capital investment to deliver an existing service (or have assets requiring management, maintenance, or replacement). PFI also emphasizes risk transfer, so a PFI candidate may involve risks that can be more efficiently borne by the private sector. The activity should have clearly defined boundaries, and long-term contracting should be feasible. Ideally, there should be scope for innovation and an extant competitive market.

The first MoD PFI contract (the Germany White Fleet¹⁶ contract) was let in 1996. As of September 2000, MoD had signed 31 contracts with an estimated public-sector capital cost¹⁷ exceeding £1.3 billion (see Table C.1 in Appendix C). In addition, some 41 projects totaling at least £7.1 billion (based on 26 costed projects) were in procurement, 1 (valued at £180 million) was at the preferred bidder stage, and 24 further possibilities (£542 million for 9 costed projects) were being considered. Figure 2.1 shows the annual values and size distributions of completed PFI contracts. Appendix D describes two contracts negotiated under PFI.

Because PFI contracts are long term and have only recently been implemented, little information is available about their management and outcomes. The NAO has evaluated two MoD PFI projects.¹⁸ These evaluations, together with experience from other large service contracts, motivated MoD to add the following features to the PFI process: periodic performance reviews,¹⁹ benchmarking (where realistic comparisons can be drawn), market testing,²⁰ and post project evaluation after a year or two.

¹⁴Ministry of Defence, *PFI Guidelines for Ministry of Defence*, downloaded from <http://www.mod.uk/commercial/pfi/guidelines>, September 20, 1999.

¹⁵Operating costs will be higher in future years, reflecting amortized capital costs as well as marginal production costs.

¹⁶The term "white fleet" refers to noncombat vehicles, including cars, buses, trucks, and materiel handling equipment such as forklift trucks.

¹⁷See Ministry of Defence, "Ministry of Defence: PFI Projects," MoD Web page, <http://www.mod.uk/commercial/pfi/database.htm>, downloaded October 16, 2000.

¹⁸National Audit Office, Report by the Comptroller and Auditor General, *Ministry of Defence: The Procurement of Non-combat Vehicles for the RAF* (HC 738 1998–99); and an as-yet unpublished report on Pilot Training that touches on the contribution of PFI projects.

¹⁹Although one purpose of PFI is risk transfer, and thus the possibility that contractors may make gains as well as losses, the MoD is aware of the need to balance incentives against the chance that excess profits can attract adverse publicity. To this end, they recommend that payments include volume discounts, refinancing of predictable but unquantifiable savings, and sharing of third-party revenue in lieu of profit caps.

²⁰Within a long-term PFI contract, this may mean that the contractor (not the MoD) regularly market tests subcontracts. There are severe obstacles to market testing the bulk of the contract, which increases the importance of getting it right at the outset.

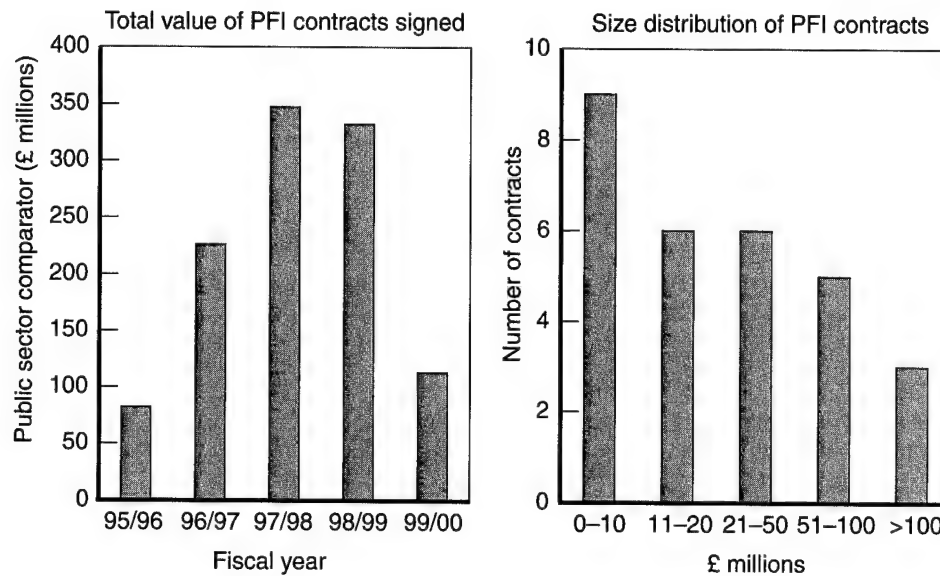


Figure 2.1—Number and Value of PFI Contracts Completed

Public-Private Partnerships

Public-Private Partnerships (PPP) cover a variety of “partnering”²¹ initiatives involving the public and private sectors, including the Private Finance Initiative (PFI); contracting out; market testing (when it results in outsourcing); joint ventures; benchmarking; linkage; and public-private collaborations. The term also refers to the activities of the Public-Private Partnership Unit (PPPU)—established in November 1997 by a merger between the former CFQ and PFI teams—to provide a focal point for all types of partnering activities.

Under traditional models of procurement competition, candidates bidding for contracts had to meet predetermined requirements under detailed terms and conditions—a situation that often led to frequent contract modifications and adversarial relationships between the MoD and its contractors. As an alternative, partnering allows suppliers to be more closely involved in setting requirements, allocating risk, and determining key contractual terms and conditions. This sets the stage for sustained engagement between MoD and suppliers to last throughout the project’s life cycle. PPPs help sustain the public-sector standards of transparency, accountability, and probity while identifying mutual MoD and contractor interests in value for money, pragmatic challenges to accepted procedures, and improvements in cost, performance, and schedule tradeoffs.

²¹The term refers to a range of customer-supplier relationships intermediate between full cooperation and arm’s-length adversarial relations. Smart Procurement also represents a form of partnering.

Government requirements for partnering include competitive partner selection (and periodic reselection when appropriate), the clear definition of contractual responsibilities, and specific and measurable milestones tied to contract payments or continuation.

Trading into Wider Markets

The Treasury Enterprise & Growth Unit offered a new twist on private-sector involvement in July 1998 when it issued guidance for government departments (including the MoD) wishing to exploit their assets, intellectual property, data, and skills in commercial markets. Marketing of complex functions can be undertaken with private partners as part of the PPP initiative. Incentives include the right to retain revenues and use them to offset current expenditures. Activities must be financed within existing cash and expenditure limits. New investments must be validated in terms of core department responsibilities and/or substantially borne by private partners. The services involved should not require additional statutory approval to offer for sale, and may be offered to other public- as well as private-sector bodies. Private and public customers are to be offered the same terms and should not be subject to "tying arrangements."

Under the guidance, departments are first required to determine whether their assets are needed to meet core public objectives. If so, the assets are screened for possible transfer to private ownership (with the department planning to buy the services back via PFI). Retained assets are examined for commercial potential based on their quality relative to the market and the existence of spare capacity. Further controls or constraints are based on Parliamentary authority and expectations about appropriate departmental activities, procurement rules, competition policy,²² and potential conflicts of interest between public and commercial objectives. Departments that want to take advantage of Trading into Wider Markets must develop a business plan²³ and an appropriate commercial structure,²⁴ then carefully select a partner to ensure appropriate risk transfer and contractual certainty. Throughout, risks to core objectives resulting from financial shortfalls or diversion of human and physical assets must be avoided.

INITIATIVES TO REFORM INTERNAL ORGANIZATIONS

The second type of initiative that has contributed to improved management of defense support services in the U.K. MoD, and indirectly to greater reliance on the private sector, is intended to reform internal organizations by introducing

²²Although government bodies are not subject to U.K. competition law, they are required to act as if they were. Moreover, public "undertakings" are bound by EU competition rules.

²³The business plan should cover option appraisal, affordability, bankability, output specification, and risk allocation.

²⁴In reselling existing spare capacity, a department will normally act on its own within existing structures. Commercialization of existing products such as software may be undertaken via a simple PPP in which the private partner markets the product in exchange for a fee. Where further development is needed, more complex PPPs are required, up to and including formal joint ventures.

market-like incentives. In this section we review the evolution of these initiatives.

Executive Agencies

When the MoD decides to retain an in-house organization that provides services to others within MoD, it is typically reorganized as an Executive Agency. Executive Agencies were established in 1988 under the Thatcher Government's Next Steps initiative. The Next Steps initiative was a government-wide Civil Service reform intended to give government employees more flexibility and responsibility to manage the delivery of government services. Responsibility for the day-to-day operations of each agency are delegated to a chief executive, who is responsible for management within a framework of policy objectives and resources set by the supervising Minister, in consultation with the Treasury. Each agency is given output, financial, and quality-of-service targets.²⁵

Under the Prior Options Review program, a team of reviewers evaluates each organization's functions with an eye to abolish, privatize, contract out, market test, rationalize, or merge the function with other areas of government. If none of these options is appropriate, an Executive Agency is established. These options are reviewed every 3–5 years, so an agency may become a target for subsequent outsourcing or privatization.²⁶ Although Executive Agencies vary in the extent to which they own assets, hold their own budget resources, and provide services to the MoD or the public, there are two main models:

- *Vote-funded agencies* negotiate responsibilities with their customers but are funded directly through the MoD budget.
- *Trading-fund agencies* contract explicitly for service delivery and are paid by customers for their performance.²⁷

Between April 1990 and April 1998 the MoD formed 44 Executive Agencies employing a total of 30,000 military and 63,000 civilian staff, accounting for a quarter of the U.K. defense budget. By the end of 1999, additional creations and consolidations resulted in a total of 42 agencies. Appendix E lists the MoD Executive Agencies with their launch dates, staff size, and operating costs.

Examples of Executive Agencies include the Defence Procurement Agency (DPA, formerly the Procurement Executive) and a new joint-service Defence

²⁵See Prime Minister and Minister for the Civil Service, and the Minister of State, Privy Council Office, *Improving Management in Government — The Next Steps Agencies: Review 1990*, London: HMSO, October 1990.

²⁶Based on periodic reviews as of September 1998, eleven Agencies had been privatized, three were wholly contracted out, five were merged or rationalized, and one was abolished. The mergers and restructuring included several MoD Agencies: the 1995 merger of the Chemical and Biological Defence Establishment (CBDE), the Defence Operational Analysis Centre (DOAC), MoD's test and evaluation facilities, and the Defence Research Agency (DRA) to form the Defence Evaluation and Research Agency (DERA); and the 1995 splitting of the Defence Accounts Agency into the Defence Bills Agency and the Pay and Personnel Agency.

²⁷U.K. trading funds are similar to working capital funds in the U.S. DoD but are somewhat less constrained in their operations. Trading funds are given financial targets by the Treasury (e.g., break even or earn a target rate of return on capital), can retain profits for reinvestment or pay dividends to the Treasury, and have more freedom than working capital funds to use pricing mechanisms other than linear, average-cost pricing.

Logistics Organisation (DLO), both established on April 1, 1999. These organizations are committed to using Integrated Project Teams (IPTs) to improve the management of major equipment acquisition and life-cycle support and to facilitate partnerships with private-sector contractors. Also on April 1, 1999, the Defence Housing Executive was given agency status, and the formerly separate Navy and RAF aircraft repair units merged into the Defence Aviation Repair Agency.²⁸ The Defence Estates Organisation was relaunched as Defence Estates with an explicit service focus and customer orientation.

Most MoD Executive Agencies are currently vote-funded; although they negotiate Service Level Agreements with their customers, they receive their own budgets to finance their activities. If customers demand more services than are feasible within the agency's budget, the agency must decide how to allocate its limited resources among customers. The first MoD trading fund agency, the Defence Research Agency, was established under the Major Government in 1993. Trading fund agencies, similar to working capital funds in the U.S. DoD, must rely on income from customer budgets to finance their activities. Thus, trading funds create financial incentives for customers to use support resources more cost-effectively, and for supplier organizations to reduce costs and improve their customer focus. To date, only three MoD agencies are financed by trading funds: the Defence Evaluation and Research Agency, the Meteorological Office, and the U.K. Hydrographic Office.²⁹ However, the Defence Aviation Repair Agency and the Army Base Repair Organisation, which provide major equipment repairs and overhauls, are both candidates for trading fund status.

Resource Accounting and Budgeting

Resource Accounting and Budgeting (RAB) is a government-wide initiative to improve fiscal strategy by distinguishing between current and capital expenditures. It emerged from the Comprehensive Spending Review (CSR) launched in June 1997 by the newly elected Blair Government. Under this initiative, expenditure is planned and controlled on the basis of both resource consumption and capital, rather than on a cash measure alone. All departments and agencies will have annual resource budgets constructed on an accruals basis, including capital charges for all publicly owned assets.³⁰

Three principles for modern and effective service delivery guided the CSR:

- tough and stretching objectives and targets,
- robust arrangements for monitoring results, and

²⁸Other new agencies include the Defence Storage and Distribution Agency and the Defence Transport and Movements Agency, both established within the DLO, and the Defence Diversification Agency, established within the Defence Evaluation and Research Agency, which itself is a candidate for a public-private partnership or privatization.

²⁹See Ministry of Defence, *Performance Report 1998-99*, Annex K: Defence Agencies, downloaded from <http://www.mod.uk/index.php3?page=782>, October 16, 2000.

³⁰Although RAB incorporates Activity Based Costing in the sense that it emphasizes the accurate allocation of costs to the activities that generate them, it is primarily aimed at creating separate operating and capital budgets. In essence, it replaces typical government cash flow accounting with accrual accounting, requiring the equivalents of balance sheets and profit-and-loss statements in addition to a statement of cash flows.

- pragmatic and innovative approaches to service delivery.

The CSR will enforce stringent efficiency targets for providers of key public services to ensure that those services are delivered in a way that maximizes the benefits to the public and provides value for money. Under RAB, departments will have clear objectives and measurable targets, incorporating an aggregate measure of efficiency. These targets are intended to create pressure for continuing efficiency improvements.

In response to the RAB initiative, MoD launched Project CAPITAL, which aims to integrate output-based planning and management and commercial accounting practices into a single financial management regime for MoD. RAB should give MoD a better understanding of its resource consumption and the opportunity costs of its outputs, particularly in relation to capital expenditure and to inventory stocks, in which MoD has substantial holdings. RAB should improve visibility and provide incentives for efficient asset management. In 1998–1999, under Project CAPITAL, MoD produced its first complete set of consolidated monthly accounts, implemented a new planning and budgeting system, and rolled out the final release of a new accounting system.

The Strategic Defence Review

In 1998, the MoD completed a foreign-policy-led Strategic Defence Review to reassess Britain's security interests and defense needs and consider how the armed forces' roles, missions, and capabilities should be adjusted to meet the new strategic realities. The review noted that since 1990, defense expenditure had fallen by 23 percent and the forces had been cut by nearly a third, while new operational challenges had arisen. A full discussion of the review and the challenging proposals it developed for the U.K. armed forces is beyond the scope of this report. However, several specific recommendations touched upon the issues of privatization and outsourcing:

- Smart Procurement (discussed below), a radical overhaul of procurement intended to reduce cost and schedule overruns and to get equipment *faster, cheaper, better*.
- A four-star Chief of Defence Logistics (CDL), responsible for organizing defense logistics for front-line forces on joint operations. The CDL is charged with "spur[ring] efficiency and driv[ing] through best business practice throughout a unified logistics organisation and in particular strengthen[ing] through-life support for equipment."³¹
- Several new joint Executive Agencies coordinating activities across the military services:
 1. Defence Transport and Movements Agency, responsible for all land, sea, and air movements of personnel and materiel;
 2. Defence Storage and Distribution Agency, responsible for all nonexplosive inventories;

³¹From Defence Secretary George Robertson's announcement of the conclusions of the Strategic Defence Review to the House of Commons, July 1998.

3. The unification of explosives storage, processing, and distribution under the Naval Bases and Supply Agency;
 4. Defence Aviation Repair Agency (which will ultimately have Trading Fund status) to bring together all Navy and RAF aviation repair and overhaul activity.
- A PPP arrangement for the Defence Evaluation and Research Agency and consideration of a Defence Diversification Agency to encourage the transfer of technology to and from industry.
 - Reorganization of the Army's equipment support function, including eventual Trading Fund status for the Army Base Repair Organisation.

Modernising Government

A range of initiatives bearing the word "modern" has emerged under the Blair Government. These initiatives focus on the whole government rather than the MoD in particular, and many of the reforms they propose are already embraced by other initiatives or by current MoD practice. Nonetheless, they provide a useful view of the policy climate within which MoD policies continue to evolve.

The 1998 Modern Public Services initiative is intended to improve the review process used to determine whether government services are abolished, privatized, contracted out, or given agency status. It rests on 12 principles for use in market testing and contracting out.³²

1. The aim is better quality services for customers at optimal cost to the taxpayer.
2. All services and activities should be reviewed over a five-year period.
3. Reviews should take a long-term view and seek strategic solutions. Departments should set robust quality, performance, and cost targets and should specify outcomes and outputs, not processes.
4. Departments should work together to resolve any wider funding issues.
5. All options should be considered in each set of circumstances without any implied preference, but the inappropriate use of market testing is discouraged, in favor of clear-cut choices between internal restructuring and contracting out.
6. The government will use competition as best suits the circumstances of each case.
7. People are the key assets; consultation and communication are important; senior managers must give leadership in reviews, seeking solutions, and managing change.
8. Departments should specify if staff are to transfer to a new employer.
9. Bids are possible from a range of sources including the private sector or other government departments.
10. EU procurement rules must be honored.
11. Contract management should be properly resourced.

³²"Modern Public Services," White Paper, July 14, 1998.

12. Recompensation should begin with full reviews at least 12 months before a contract ends, and in-sourcing can only be justified on very robust, defensible, value-for-money grounds.

The Modernising Government agenda launched in the spring of 1999 lays down basic principles for reevaluating the delivery of the entire range of government services. The relevant elements for MoD's outsourcing and privatization initiatives include a new emphasis on combined activities (echoing the joint operations focus of the Strategic Defence Review and the trend toward agency status) and an explicit endorsement of the principle that outcomes are more important than processes and that any function can be reexamined. It is still too early to gauge the impact of this initiative.

INITIATIVES TO IMPROVE CONTRACTING PRACTICES

The third group of initiatives focuses on the contracting process, which is critical to increasing private-sector involvement in support services. These initiatives include efforts to promote competition in contracting, identify clear lines of responsibility for contract outcomes, promote partnering between the MoD and contractors, and ensure the financial health of the defense industrial base. Although most of these initiatives were aimed at improving procurement of equipment or other assets, many of the same principles apply to services, such as competition in contracting, specifying requirements in terms of outputs rather than inputs, holding a single prime contractor accountable for performance, and closer partnerships with industry.

Levene Reforms

Prior to 1985, MoD procurement policy was based on preferential arrangements with major defense suppliers and a "Buy British" policy that emphasized national security, protection of domestic jobs, and avoidance of imports. Major equipment contracts were awarded without competition, usually on a cost-plus basis. The MoD determined the detailed operational requirements for equipment and attempted to monitor and control contractor costs. As a result, the MoD bore most of the risks associated with procurement and was failing to obtain good value for money, as reflected by cost and schedule overruns and poor equipment performance.³³

In an attempt to reverse the cost and schedule overruns in the MoD's procurement system, Thatcher appointed Peter Levene as Chief of Defence Procurement in 1985. Since he was appointed directly from private industry, Levene undertook a commercial approach to equipment procurement. He made a number of changes in the operation of the Procurement Executive. The principal elements included the following:

- Almost all defense equipment contracts were subject to competition involving foreign as well as U.K. contractors. Subsequent MoD

³³See Gianni De Fraja and Keith Hartley, "Defence Procurement: Theory and U.K. Policy," *Oxford Review of Economic Policy*, Vol. 12, No. 4, Winter 1996, pp. 70-88.

assessment showed that competition reduced procurement costs by £1 billion a year.

- “Cost-plus” contracts were replaced by fixed-price contracts with progress payments firmly linked to explicit milestones, thus transferring some financial risk to industry.
- Industrial prime contractors were appointed to integrate and manage complex equipment projects.
- MoD requirements were simplified in terms of a limited number of key “cardinal points.”

Levene wanted to see a more commercial and competitive style, and he sought to save 10 percent on the overall procurement budget over a five-year period. The proportion of contracts subject to competition has increased from less than 40 percent during the 1985–1989 period to over 60 percent in 1995–1998. At the same time, the proportion of “cost-plus”³⁴ contracts was reduced from 15–20 percent in 1985–1988 to less than 5 percent in 1993–1998.

Competition in contracting remains an important goal for the MoD. However, in some situations, MoD cannot implement competition due to a thin set of bidders or the need for extensive prior investment. For example, in two of the procurement projects described in the 1997 NAO Major Projects Report, competition between potential contractors collapsed after industry mergers and acquisitions. Such failures to sustain effective competition are likely to become more common as the defense industry consolidates. To handle sole-source contract negotiations, MoD created a procedure called NAPNOC (No Acceptable Price, No Contract) in 1992. Under NAPNOC, MoD should not enter into a sole-source contract unless it can establish the cost-effectiveness of the contract. However, it can be difficult to measure value for money, especially if MoD does not have detailed knowledge of industry costs. The Public Accounts Committee (PAC) regards suitable “should cost” data as essential to satisfactory NAPNOC outcomes and observes that unless MoD knowledge includes industry norms or best standards, even knowing a given firm’s actual costs will be of limited value. Alternative possibilities are to use *ex post* reviews or the long-term relationship provided by partnering to support price discipline.

Building Down Barriers

Building Down Barriers (BDB) refers to a 1994 MoD initiative formally known as the Construction Supply Chain Network Project, undertaken together with the Department of the Environment, Transport and the Regions and a range of private-sector and academic partners. In some ways this initiative foreshadowed the more broadly based Smart Procurement Initiative, as it promoted engagement between a single prime contractor on the commercial side and an intelligent customer on the MoD side. BDB was intended to remedy

³⁴This figure combines contracts priced on actual costs plus a fixed percentage fee with contracts based on actual costs plus incentives to minimize costs (by reference to the government profit formula). It had fallen to 2 percent by 1998–1999.

problems in construction, which had not benefited from recent progress in equipment procurement.

Construction projects were often plagued by too many interfaces with different contractors, a situation that led to fragmented supply chains, duplicate or conflicting effort, imprecise risk allocation, an excess management burden, and obscure accountability. These arrangements weakened long-term incentives for contractors to invest in management skills and to commit their best people to MoD projects while, paradoxically, fostering a transfer of responsibility for requirements implementation from MoD to consultants and industry. As a result, the contracting relationship was often adversarial.

The revised procedure calls for contracts specified in functional terms (e.g., desired outputs or performance rather than inputs),³⁵ integration of design and construction, and creation of a single supply chain controlled by a fully accountable prime contractor. The prime contracting approach necessarily emphasizes supply chain management³⁶ by the prime contractor and, when appropriate, by the MoD intelligent customer team. A natural gravitation toward smaller numbers of larger, longer-term contracts is anticipated under this initiative.

Smart Procurement Initiative

The 1998 Strategic Defence Review highlighted the need for procurement reform, citing a series of NAO reports documenting persistent cost and schedule overruns. The Smart Procurement Initiative—a joint process analysis exercise undertaken with industry—produced a package of measures designed to improve the equipment procurement process throughout MoD. Many of these measures can also be applied to contracts for services, which are the primary focus of outsourcing and privatization initiatives.³⁷

The problems with MoD contracting were highlighted by the 1997 NAO Major Projects Report, which covered the progress and costs of the 25 largest defense equipment projects. The overall picture was one of cost overruns (£3 billion over the 25 projects) averaging 9.1 percent of approved amounts and schedule overruns averaging 37 months. The situation had worsened over the previous five years and was also seen against a much longer history of problems with defense procurement.³⁸ According to the NAO Report, cost overruns most

³⁵In the case of construction, specifying output or performance would involve stating the client's requirements in terms of the desired function of a building, e.g., housing a desired number of people engaged in specified activities, or providing training facilities for a desired number of people in specified skills, rather than the size, shape, number of rooms, etc., the building should have. See Richard Holti, Davide Nicolini, and Mark Smalley, *Prime Contractor Handbook of Supply Chain Management*, Sections I and II, May 1999, downloaded from <http://www.mod.uk/de/proc/index.htm>, September 29, 1999.

³⁶One output has been a Handbook of Supply Chain Management that stresses process mapping, robust life-cycle risk management, and planning workshops involving all participants.

³⁷For example, the Integrated Project Teams envisioned by Smart Procurement will transition from acquiring equipment at the Defence Procurement Agency to acquiring logistics services at the Defence Logistics Organisation when the equipment enters service.

³⁸This history dates back to 1898, when the Public Accounts Committee commented on delays of more than two years in the delivery of torpedo boats and failure to collect contractual remedies for

frequently resulted from program changes, inflation adjustments, and specification changes. Schedule slippage was primarily due to technical difficulties, budget constraints, and inefficient collaborative processes.

The Smart Procurement team concluded that some of the cost and schedule overruns could be reduced by more early planning and investment, a whole-life approach covering equipment life cycles from acquisition to disposal, and closer partnerships between MoD and industry. Likewise, technical and budget risk could be minimized and incentives improved by incremental acquisition—smaller initial equipment purchases followed by a series of planned updates. Cost inflation was to be controlled through greater use of firm prices.³⁹

To accomplish these changes, Smart Procurement has three key elements:

- **Integrated Project Teams (IPTs)** bringing together all stakeholders and industry (except during competition) under a team leader able to balance performance, cost, and schedule within limits set by the approving authority. These teams will be involved with decisionmaking and monitoring from initial specification to contract termination or rebidding.
- **Streamlined processes** tailored to different types of acquisition. For smaller items and in-service support, good commercial practice will be followed—e.g., using credit cards or cash for minor purchases. MoD will rely on industry for support, and in some cases, the complete operation might be outsourced. Smaller projects will be organized using an integrated team approach, giving contractors flexibility and team leaders more authority. Major projects (including collaborations among services) will also use the integrated team approach.
- **Clear MoD customer identification** at all project stages. In the past, complex approval systems have produced tortuous and sometimes ineffective relationships between acquisition staff and customers.

The Strategic Defence Review also considered the need for a specialist acquisition organization within MoD. It examined the potential for outsourcing the acquisition of routine items and specific functions, and it considered various options for ownership of the Procurement Executive. Although privatization would increase access to private-sector expertise and incentives, the organization needed to be close to its military customers and to bring together a wide range of interests under the IPT concept. As a result, the Strategic Defence Review recommended that the procurement function be kept in house, but that the Procurement Executive should be given agency status.

late delivery. The committee concluded that “the Department very seldom exacts penalties, which appears to reduce the penalty clauses of contracts to little more than an empty form of words.” In 1959, the committee agreed with MoD that “absence of a firm specification made the contract a weak point for the purpose of negotiating on deficiencies in performance.” In 1981, the committee observed that the main causes of delays and cost increases were “changes in the operational requirement during development” and went on to say that they were disturbed by evidence of “too little effort being devoted to the reduction of technical risks during project definition.” See House of Commons Select Committee on Public Accounts, First Report, 1998.

³⁹In reality, prices reflect industry estimates of inflation. Firm pricing reduces inflation uncertainty, and it may reduce those components of inflation that are partially under industry control.

The reconfigured Defence Procurement Agency uses Integrated Project Teams and Smart Procurement tools. Core staffs are drawn from an Acquisition Stream bringing together people involved in all stages of the acquisition cycle—from requirement formulation through final disposal of obsolete equipment. Teams remain intact through a project's life, moving from the DPA to the Defence Logistics Organisation when equipment enters service. The Acquisition Stream is supported by a comprehensive set of new processes and functional competencies covering the Systems, Procurement, and Logistics areas. Training courses (some in cooperation with industry), staff development schemes, and employee interchange programs complement this effort.

Under the Smart Procurement Initiative, MoD anticipates a 20 percent reduction in the DPA's operating costs by 2001–2002.

Restructuring the Industrial Base

The Blair Government's 1999 Defence White Paper drew attention to the need for restructuring of the U.K. and European defense industries. On the international front, the United Kingdom is working with France, Germany, Italy, Spain, and Sweden to facilitate, but not direct, this transformation. Key elements include assuring security of supply, information, and technical data; simplifying export procedures; reducing R&D duplication; improving treatment of intellectual property rights; and developing improved methods for harmonizing requirements. On the domestic front, MoD reports that while there is no explicit "Buy British" policy, British firms win approximately 90 percent (by value) of MoD contracts.⁴⁰

MoD procurement assessment criteria include four specifically related to the industrial base:

- Long-term value for money, including the cost implications of creating a monopoly;
- Security of supply, especially when buying from non-NATO countries;
- Preservation of industrial capabilities to meet operational requirements, support present and future weapon systems and military operations, regenerate critical equipment, contribute to collaboration, minimize risks of overdependence on single suppliers or countries, and promote defense exports; and
- Benefits to MoD of defense exports, including lower unit prices for MoD purchases and survival of strategic firms.

The Defence Select Committee reported that industry representatives voiced concern that "long-term industrial implications of MoD procurement decisions had not been given sufficient weight in the last few years."⁴¹ The Select Committee recommended including representatives from the Department of Trade and Industry on the Equipment Approval Committee to address these concerns.

⁴⁰House of Commons Select Committee on Defence, *Seventh Report*, 1997.

⁴¹*Ibid.*, "Developments on the Demand Side; procurement," par. 9.

COLLECTIVE EFFECTS OF OUTSOURCING AND PRIVATIZATION INITIATIVES

The series of initiatives described above began with fairly straightforward adjustments to procurement practices aimed at increasing competitive discipline and transparency within the existing pattern of outsourcing. Over time, purchases of goods were replaced with purchases of services, and internal MoD organizations were placed on a more businesslike footing. Pressures to reduce government operating and capital budgets spawned a variety of public-private hybrids in which assets were placed under private ownership and used to provide services to MoD.

As the initiatives unfolded, the arrangements necessary to maintain quality, schedule, and cost control, to ensure appropriate specification and life-cycle support, and to transfer risk without distorting incentives became progressively more complex. This added complexity led to the creation of several new types of specialized personnel within MoD, the adoption of novel accounting procedures, and substantial modifications to both standard form contracts and contracting procedures.

The initiatives share three common threads. One is the introduction of *improved flows of information* within and between organizations. These range from the creation of integrated project teams, wherein all stakeholders—including industry—exchange information throughout the project's life cycle, to periodic reviews and reassessments of strategic choices with regard to privatization, outsourcing, and internal reform. A second is a more analytic, realistic, and cautious approach to *risk assessment and management* through formal requirements for specific assessments, use of novel incentive contracts and asset shifting to reassign risks, and a more incremental and adaptive approach to design, acquisition, and employment. The third is *competition*. This is not limited to competitive mechanisms for choosing suppliers. It includes requiring periodic market testing of in-house teams and periodic recompetition of major procurements and service contracts.

Improved flows of information and clarification of responsibility required restructuring of suppliers, customers, and the relationships between them. On the supply side, the transition to a prime contracting model (in procurement) began in the late 1980s and was extended to construction with the Building Down Barriers initiative in 1994. On the demand side, MoD undertook a series of efforts to improve its visibility, coherence, and performance as an "intelligent customer." The most recent developments in this area are found in the Smart Procurement Initiative, which introduces IPTs to bring together MoD customers and industry suppliers.

A special type of contract, the Customer Supplier Agreement (CSA), governs relations between internal MoD customers and suppliers. It lays out the working methods to be adopted, expected levels of output, schedule, cost, and quality, and other overall aspects of the relationship. Beginning in the mid-1980s, contracts have been simplified, first by defining a small number of "cardinal points," then gradually pushing toward more functionally defined specifications,

and ultimately to Smart Procurement's explicit separation of user requirements, system requirements, and CSAs.

Another potentially significant source of improved management information is the MoD's introduction of Resource Accounting and Budgeting. The essence of the new system is to supplement cash flow data with information about both consumption and capital. The MoD is integrating output-based planning and management and commercial accounting practices into a single financial management regime. This should provide a better view of resource consumption and the opportunity costs of outputs produced, particularly in relation to capital expenditure and to inventories (where MoD has substantial holdings).

Risk assessment and management has been a consistent theme in procurement as well as in outsourcing and privatization. Technical and budget risks have long been associated with schedule and cost overruns and quality shortfalls. Proximate causes were seen to be failure to accurately predict and plan for risks, procurement practices that prevented risk minimization, inappropriate or passive tradeoffs among cost, schedule, and performance risks, and missed opportunities to place risks with those parties best able to bear them.

Over the years, MoD devised a variety of solutions to the problems of cost and schedule overruns, including requiring the use of specific risk-forecasting techniques;⁴² incorporating explicit cost, schedule, and performance tradeoffs into initial planning; broadening the use of incentive contracts; instituting firm pricing for contracts up to five years in length; using output rather than input price indices for inflation adjustments in longer contracts; and using past performance data in bid evaluation. A revamped procurement cycle now facilitates upfront investment in risk reduction and reduces incentives to make overoptimistic risk assessments in order to strike a contract.

Risk transfer was one of the primary drivers of the Private Finance Initiative. PFI deals involve substantial private investment in assets used to produce services for MoD under a long-term contract in which the supplier is responsible for the assets and MoD contracts for service delivery. During the early phases of PFI, risk transfer was aggressively pursued, with the paradoxical result that risk was sometimes transferred to private firms unable to control,⁴³ manage, or bear it—leading to greater levels of cost, performance and/or schedule slippage. Since then, explicit guidance on risk assessment, prime contracting and supply chain management, and evaluation of proposals for risk management plans have produced an improved focus on appropriate risk allocation.

MoD's guidance on risk transfer in PFI projects indicates that risks should be placed where they can be most cost-effectively managed and controlled. As a general rule, projects should transfer risks in areas where the supplier can influence the outcome. Suppliers are likely to charge a premium to manage risks outside their control. Examples of the types of risks that should be considered for transfer to the supplier are: project finance, planning permission, design and construction, operation, support costs, technology or obsolescence, and residual

⁴²For example, integrated life-cycle "3-point" (minimum, mean, and maximum) cost and schedule forecasts tied to resource allocation and financial provision.

⁴³The primary examples are budget or mission uncertainty.

value of assets. Examples of risks that might be retained by MoD are: demand, volume, or usage of a service by MoD and legislative changes aimed at particular projects or types of projects.⁴⁴

Serious efforts to introduce **competition** started with the Levene reforms in 1985, which required competition for almost all procurements and explicitly sought bids from non-U.K. firms. The NAPNOC (No Acceptable Price, No Contract) procedure was added in 1992 to inject competitive discipline into contract pricing and prevent delays in those situations for which competition was infeasible. Competition-like mechanisms for service provision were formally introduced at a government-wide level with the 1991 Competing for Quality initiative, which required reviews that could result in (in declining order of preference) abolition, privatization, outsourcing, or in-house provision by an Executive Agency.

Open competition frequently caused adversarial relationships between MoD and its suppliers, while “partnerships” that evolved in less competitive long-term settings did not. This recognition led to Smart Procurement proposals, which introduced a form of long-term partnering that combined the discipline of an ongoing teaming effort with a flexible structure that reverted to arm’s-length relations during mandatory competitive evaluation of supply proposals. Most recently, CFQ, PFI, and some aspects of Smart Procurement have been united in a common framework under the Public-Private Partnership Unit that provides a focal point for all MoD partnering activities.

Measuring the Results

The absence, to date, of clear resource accounting data makes it difficult to assess the quantitative dimensions of privatization, outsourcing, and the related reforms described above. Moreover, in such a dynamic environment it is misleading to rely too heavily on quantitative measures of their impact. However, there are some general indicators of MoD’s progress in implementing efficiency savings, procurement reforms, outsourcing, and competition.

Over the last few years, MoD has been successful in meeting the efficiency savings targets in its Public Service Agreement with the Central Government. Table 2.3 shows the MoD’s target and actual efficiency savings in recent years. Completed PFI contracts, which amounted to £264 million in 1996–1997, £347 million in 1997–1998, and £332 million in 1998–1999, helped contribute to these savings.

The MoD’s Public Service Agreement for 1999–2002 sets out procurement performance standards to be attained by 2001–2002 relating to improvements in project management performance:

- on average, no in-year increase in major project costs;
- in-year slippage of in-service date of new major projects to average less than 10 days; and
- in-year slippage of in-service date of existing major projects to average less than 4 weeks.

⁴⁴See Ministry of Defence, “Risk Allocation,” Part III: Procurement Issues, *PFI Guidelines for Ministry of Defence*, op. cit.

Table 2.3
Efficiency Savings for MoD as a Whole

	1996–1997	1997–1998		1998–1999	
	Achievement	Target	Achievement	Target	Achievement
Total efficiency savings ^b	£675m	£518m	£558m ^a	£505m	£594m
Savings as a proportion of MoD efficiency baseline	4.1%	3.4%	3.6%	3.3%	3.9%

^a£575 million at 1998–1999 prices.

^bThe baseline includes running costs and capital expenditure on nonmilitary equipment.

SOURCE: MoD Performance Reports, 1997–98 and 1998–99.

Table 2.4 shows the performance of major procurement contracts. In 1998–1999, average in-year slippage on the overall program of major projects in full development and/or production that had not yet achieved in-service date was 1.5 months, compared with a target of less than 4 weeks. For the same project population, some 75 percent of in-year milestones were achieved.⁴⁵ Major delays were encountered with the Electronic Counter Measure Resistant Communications/Joint Tactical Information Distribution System for the Sea Harrier/Sea King aircraft; the Nimrod MRA4 (Maritime Reconnaissance and Attack Aircraft Mark 4); and the Medium Range TRIGAT anti-tank guided missile, among others. All cost and technical performance targets were met.

The National Audit Office's *Major Project Reports 2000*, which examined the top 20 procurement projects in demonstration and manufacture, and the top 10 projects in the technical assessment phase, attempted to evaluate the initial effects of Smart Procurement. It found that during the 1999–2000 fiscal year, forecasted cost overruns on projects in demonstration and procurement fell slightly relative to the previous year, and that newer projects were showing smaller cost overruns than older projects. However, project completion dates slipped by an additional 3 months to an average of a 28-month delay. These delays have led to capability shortfalls on some projects, but MoD expects to meet 98 percent of the customer's key requirements when equipment enters service. Performance targets for the technical assessment phase had not yet been established, but cost forecasts increased by an average of 13 percent, and schedules slipped by an average of 8 months for 8 of the 10 projects reviewed.⁴⁶ However, it is too early to expect to see any major impact on any of the 30 procurement projects, all of which were begun before the introduction of Smart Procurement.

⁴⁵The failure to meet 100 percent of in-year milestones is entirely due to two collaborative projects, the Common New Generation Frigate (joint with France and Italy) and the Medium Range Third Generation Anti-Tank Guided Weapon (MR TRIGAT, joint with France and Germany). The United Kingdom has withdrawn from the former and announced plans to withdraw from the latter at the end of the development phase.

⁴⁶The remaining two projects showed much worse cost and schedule performance, but they were initiated before 1995. See National Audit Office, *Ministry of Defence: Major Projects Report 2000*, London: The Stationery Office, November 2000.

Table 2.4
Major Procurement Project Management Performance

	1996–1997	1997–1998		1998–1999	
	Achievement	Target	Achievement	Target	Achievement
Average slippage on projects (months)	2.9	<1.2	1.8	<1.0	1.5
Average change in project costs	0.7%	0%	–0.2%	0%	–0.7%
Percentage of projects with unsatisfactory technical performance	5.1%	0%	0%	0%	0%
Percentage by value of contracts placed by competition ^a	74%	75%	75%	75%	70%

^aCalculated on a three-year rolling average.

NOTE: Covers major projects in full development and/or production that have not yet reached in-service date. Baselines for schedule and cost control are reset to zero at the start of each year to measure that year's performance.

Table 2.5 gives recent data on the use of contracting in general and competitive contracting in particular in the MoD's expenditures on Science, Engineering, and Technology (SET). For reference, MoD contracts are compared to corresponding data for all civilian departments and the U.K. government as a whole.

It should be noted that Office of Science and Technology data conventions include PFI expenditures in the noncompetitive contract category; moreover, during this period DERA was beginning its path to privatization. Thus 1996 data may be "outliers" in showing that MoD shifted almost equal proportions from noncontract and competitive contracts to noncompetitive contracts. The overall shift to contracting out appears to have been completed, but there is an enormous gap between MoD and civilian use of competition in contract allocation in SET expenditure, as shown in Figure 2.2.

Figure 2.3 shows the evolving use of competition and similar mechanisms across the full spectrum of MoD contracts, in both absolute and relative terms. Note that the first three observations are taken at five-year intervals, whereas the figures from 1994 onward represent annual data. Taken together, the bottom two series represent competitive contracts combined with informal tendering and discounted competitive price lists. The middle series includes contracts based on benchmark prices. These figures show a growing reliance on market forces over the period 1980–1995 and a stable trend thereafter. Competition also led the rapid increases in outsourcing during the period 1994–1996.

Table 2.5
**Competition and Contracting in Science, Engineering,
and Technology Expenditure**

Source	Year	Percentage of Expenditures		
		Competitive contract	Noncompetitive contract	Non-contract
Ministry of Defence	1995	73.11	7.78	19.11
	1996	64.82	23.77	11.41
	1997	76.86	6.84	16.30
Nondefense ministries	1995	27.90	52.08	20.02
	1996	51.72	30.87	17.41
	1997	53.44	28.45	18.12
Total SET ^a	1995	53.39	20.22	26.39
	1996	57.01	20.65	22.34
	1997	64.25	12.04	23.71

^aTotal SET combines defense and nondefense ministerial expenditure with Research Council spending (not shown separately).

LESSONS LEARNED FROM THE U.K. EXPERIENCE

Some of the lessons learned from the U.K. experience with greater involvement of the private sector in providing defense support services are embodied in the initiatives described above. Others have emerged from reviews of particular contracts or initiatives by the U.K. National Audit Office, the MoD, and other sources. In this section we summarize the general lessons learned that are applicable to each of the three areas discussed in the chapters below on housing, base operations, and logistics.

1. The MoD should define its requirements in terms of desired outputs or performance.

Making effective use of private-sector providers requires the MoD (or other military customer) to be an "intelligent customer." The MoD must define its requirements in terms of desired outputs or performance rather than inputs or tasks to be performed, so that the contractor can determine the best way to meet these requirements. The requirements-definition process should include direct users or customers of a service as well as experts such as engineers and contracting personnel.

2. Source selection should emphasize best value for money.

An emphasis on cost reduction or the selection of the lowest bidder on government contracts may lead to degradations in service quality or timeliness, and to adversarial relationships with contractors. Source selection should be

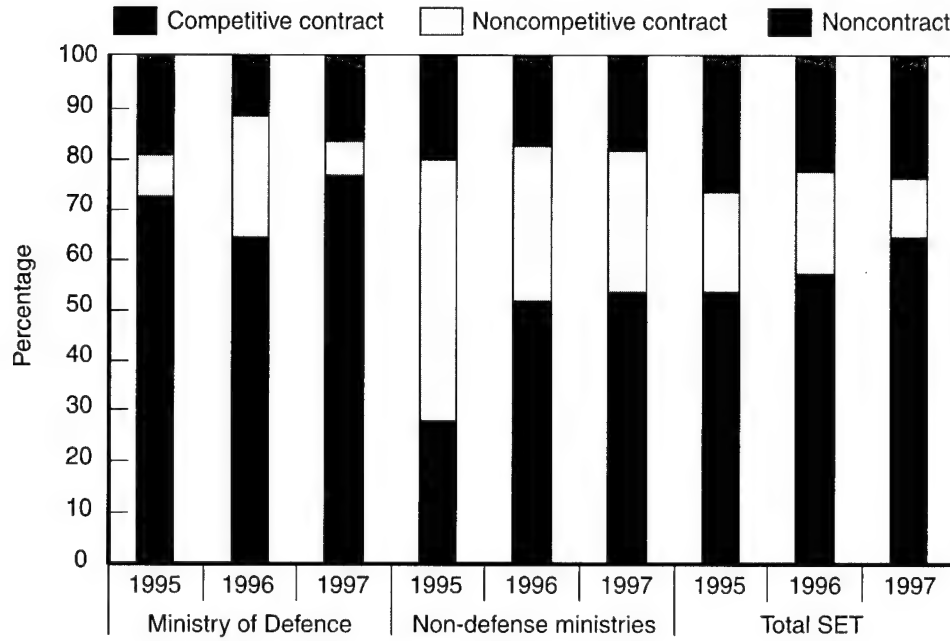


Figure 2.2—Competition and Contracting in SET Expenditure

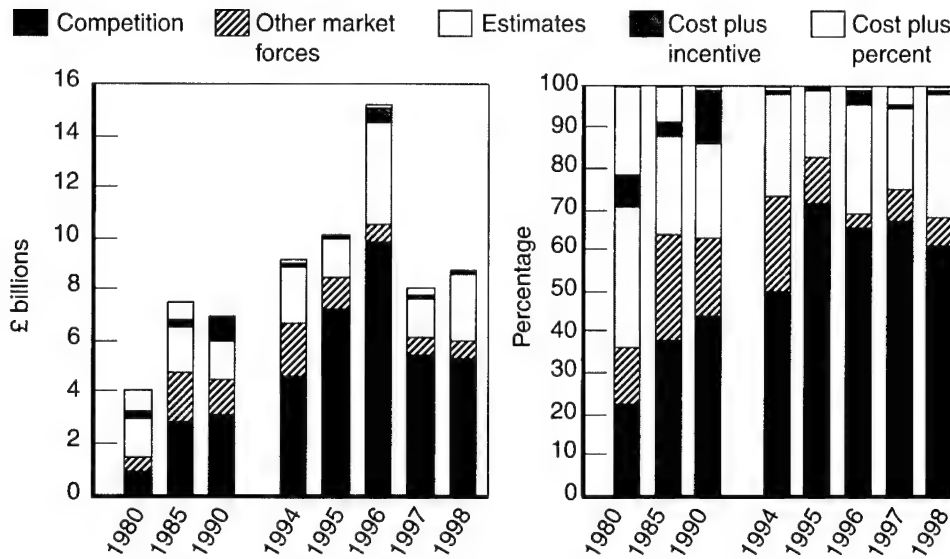


Figure 2.3—Pricing Methods for MoD Contracts

made on the basis of value for money, taking into account cost, quality, timeliness, and other factors relevant to the service provided. These selection criteria should be made explicit to bidders in a contract competition.

3. The MoD must take a strategic view of its requirements and design flexible contracts.

Contracts that incorporate private-sector investment in the assets used to provide support services often must cover long periods so that the contractor can recoup its investment. Therefore, the MoD must take a long-term, strategic view of its requirements and allow for flexibility in its contracts so that it does not commit to a level of cost, service, or performance that becomes outdated. The MoD must also consider how contractors will transition from a peacetime, in-garrison environment to a deployed environment if their contracts involve services that must be provided in both environments.

4. Contract risks must be identified and allocated to the parties best able to manage them.

As outsourcing and privatization deals have become more complex, the MoD has had to consider how to identify and allocate risks to the parties best able to manage them. This can be difficult to do in practice. Contract negotiations on risk allocation must be based on common, valid information that is available at the inception of the project.

5. The MoD should develop long-term partnerships with contractors.

To improve performance over the lifetime of a long-term contract, the MoD must have a cooperative relationship with the contractor. Partnering requires open communication with contractors during requirements definition, contract negotiations, and contract performance. Contracts should include incentives for information sharing, continuous improvement, and continuous investment, such as sharing the gains from efficiency improvements⁴⁷ or providing noncompetitive contract renewals in exchange for good performance. However, there is a tradeoff between long-term partnering and contract recompetition to determine whether the current supplier is still providing best value for money.

6. Accurate information is needed to monitor costs and performance.

The MoD must ensure that it is collecting the information necessary to monitor contractor performance and link performance with financial incentives. Accurate information on the costs and performance of in-house providers should also be maintained for comparison with private-sector alternatives. Contract evaluation has often focused on the initial deal rather than the long-term

⁴⁷Gain sharing could involve allowing contractors to keep some of the benefits of cost reductions rather than reclaiming them through reduced prices, or sharing benefits that accrue to MoD.

performance of the contractor, making it difficult to determine whether projects deliver anticipated cost reductions or performance improvements.

7. The MoD must consider when it is appropriate to use public- and private-sector providers.

Private-sector provision of defense support services is likely to be most effective for well-defined activities that have analogous, competitive private-sector markets. Defense-unique services or sole-source providers will require more careful design of contract incentives for good performance. The incentives associated with market forces and the profit motive may not be appropriate for some activities. For example, the awarding of major defense procurement contracts may be considered an “inherently governmental” activity.

8. Mechanisms are needed to share best practices.

Since responsibility for outsourcing and privatization decisions may be spread across many MoD organizations and personnel, it is important to collect and disseminate information about best practices and lessons learned. Personnel may need training or internal incentives to adopt innovative contracting practices. CFQ and PFI teams, and more recently the Public-Private Partnership Unit, have facilitated information exchanges within the MoD.

3. Housing

This chapter discusses the use of outsourcing and privatization in the provision of military housing and barracks accommodation in the United Kingdom, with comparisons to the U.S. Army. We begin by providing background information on military housing in the United Kingdom and United States. We then describe major outsourcing and privatization initiatives in both countries. We conclude with lessons learned based on the British and American experiences.

BACKGROUND: UNITED KINGDOM

Although the U.K. MoD has decided that the provision of housing for service families is not a “core” activity, it retains a commitment to provide or to assist families in obtaining housing.⁴⁸ Service personnel over 18 years of age who are married or who have parental responsibility for a child and normally live with the child, have completed initial training, and have at least 6 months to serve with their unit may be entitled to live in Service Families Accommodation, also known as married quarters. The type of housing to which service personnel are entitled depends on rank for officers and on family size for enlisted (other ranks). However, service members who are entitled to live in married quarters housing are not required to live there, and they may choose to rent or buy private-sector housing. Approximately 30 percent of entitled officers live in married quarters, whereas approximately 70 percent of entitled enlisted do so. Table 3.1 shows the stock of married quarters by location, relative to the total number of service personnel.

Service personnel are advised to apply for married quarters at least 60 days before the accommodation is needed. They may also request that the house be fully or partially furnished. They are usually offered a house one month before entitlement but may have to wait up to a month after their entitlement date before a home becomes available. If no housing is available, personnel may elect to stay on the waiting list, or they may accept a Non Availability Certificate to confirm that married quarters are not available. In the latter case, MoD has contracted with Hambro Countrywide Relocation plc (Public Limited Company) to help service personnel find a suitable private home for rent near their place of work.

Service personnel who choose to live in married quarters pay accommodation charges that are deducted from pay. Accommodation charges depend on the size of the house, whether furniture is included, condition of the

⁴⁸Because of strict rent control and renters’-rights laws and a history of substantial public-sector construction and ownership of “council housing,” the United Kingdom has a limited market for private rental housing in some areas. Private rental markets tend to be particularly limited in remote areas, where some military bases are located.

Table 3.1
Availability of Married Quarters Housing

Location	Number of Service Personnel (as of 1998)	Number of Houses (as of 1999)	Percentage Vacant
England and Wales	147,800	56,500	21.4%
Scotland	14,200	5,900	25.4%
Northern Ireland	11,000	3,100	12.9%
Total U.K.	173,000	65,500	21.4%
Overseas	43,444	26,300	N/A

SOURCE: Ministry of Defence, *UK Defence Statistics 1999*, Tables 2.4, 2.5, and 3.5.

property, and services available nearby. Additional charges are made for water rates and for a contribution in lieu of local Council Tax. Accommodation charges are set by the Armed Forces Pay Review Body in comparison to local rental rates for council houses or housing associations and private-sector rentals. However, these charges are set and collected independently of the budget allocated for construction and maintenance of married quarters.

In 1991, the MoD established a Housing Task Force comprising housing experts from the public and private sectors to review the management of married quarters housing. The task force concluded that the quality of the housing stock was inadequate, and that the high vacancy rates tended to indicate that the housing was not managed as efficiently as it could be. The task force recommended that a nonprofit Housing Trust be set up to own and maintain the married quarters and lease back the units required by the MoD. The trust would also be allowed to sell or lease surplus properties to third parties. However, the Central Statistical Office determined that the level of control the MoD would have over the Housing Trust was too great to constitute a genuine transfer of ownership and risk to the private sector.

In 1994, the MoD abandoned its proposal to establish a Housing Trust and began developing plans to sell the bulk of its married quarters housing to a private-sector contractor. The MoD created the Defence Housing Executive (DHE) in April 1995 to take over the management of all married quarters in England, Scotland, and Wales from the individual armed services. The sale of 57,400 married quarters in England and Wales, completed in November 1996, was primarily a financial transaction rather than a transfer of management responsibility. The contractor receives rental payments from MoD and income from the disposal of surplus housing, but the DHE retains the responsibility to maintain and upgrade the housing that it leases. The sale and leaseback of married quarters housing will be described in greater detail below and in Appendix F.

The DHE was given agency status in April 1999. As an agency, the DHE must sign Customer Supplier Agreements with the services. Its chief executive reports to an Owner's Advisory Board chaired by the Deputy Chief of the Defence Staff (Programmes and Personnel). The Chiefs of Staff to the Principal

Personnel Officers of the three services are also members of the board. The Chief Executive of the DHE and the Owner's Advisory Board must agree on a set of objectives and targets that are published in the DHE Corporate Plan. The chief executive also meets regularly with the Service Families Housing Advisory Panel, formed by representatives of the Army Families Federation, Airwaves, and Naval families. The DHE encourages the formation of local Family Consultative Groups, or Resident Associations, to discuss local housing issues with DHE staff.

The MoD also provides barracks accommodation for service members without dependents, or those on unaccompanied assignments. However, barracks are controlled by the individual commands responsible for the units housed in them, not by a centralized organization.

BACKGROUND: UNITED STATES

The U.S. Army owns and maintains approximately 135,000 family houses and 300,000 barracks spaces worldwide. About one-third of Army families currently live in on-post Army family housing, and the remainder live in off-post, private-sector housing. Army personnel who live on-post pay no rent, but those who live off-post receive a Basic Allowance for Housing (BAH), which varies by rank, family status, and location. BAH is a tax-free allowance, but historically it has only covered about 80 percent of the cost of off-post housing on average.⁴⁹ With the exception of some unmarried soldiers who are required to live in barracks, most Army personnel seem to prefer on-post housing when it is available. On-post family housing is fully occupied at most installations, and there are substantial waiting lists. A 1999 RAND study of DoD housing found that this preference is mainly due to the cost advantage of on-post housing. For junior personnel with families, the value of on-post housing was \$200 per month, or 30 percent, higher than the value of housing allowances. This gap narrows, but remains positive, for higher ranks.⁵⁰

Army personnel and their families benefit from Morale, Welfare, and Recreation (MWR) facilities located on installations, including gyms, swimming pools, golf courses, child care, counseling services, and arts and crafts programs. Army families who live on-post are more likely to take advantage of these facilities. MWR facilities are funded by a combination of appropriated funds and "profits" from other activities, such as commissaries and post exchanges, which sell merchandise that is exempted from sales and excise taxes and are not typically required to cover the full costs of the land and buildings they occupy.

⁴⁹Until recently, housing allowances consisted of two components, a Basic Allowance for Quarters (BAQ), which varied by rank and family status, and a Variable Housing Allowance (VHA), which varied by rank, family status, and location. The new BAH depends on local costs of standard housing types (rather than actual costs paid by soldiers) and is intended to normalize out-of-pocket housing costs by rank.

⁵⁰See Richard Buddin et al., *An Evaluation of Housing Options for Military Families*, Santa Monica, CA: RAND, MR-1020-OSD, 1999, pp. 15–16. In contrast, the high vacancy rates in MoD married quarters housing seem to indicate that it is financially less attractive than DoD family housing.

Typically, the amount the Army spends annually to maintain on-post housing is less than local rental charges, as represented by housing allowances. (See Table 3.2.) However, annual operating expenditures do not include military construction funds, which are used to build housing units; depreciation costs; fees the government pays to local school districts to educate on-post dependents; or rental charges for land use. Considering these additional costs, the Congressional Budget Office has argued that DoD housing costs 35–40 percent more than comparable private-sector housing.⁵¹

Nevertheless, much of Army housing is in poor condition. The Assistant Chief of Staff for Installation Management (ACSIM) reports that 29 percent of Army family housing needs to be rebuilt or replaced, and a further 49 percent is in need of renovation. There is a \$6 billion backlog of construction and renovation that would take more than 100 years to complete under current budgets. However, the Army hopes to rehabilitate all inadequate family housing by 2010, using a three-part strategy: increasing reliance on the private sector through the Military Housing Privatization Initiative passed by Congress in 1996; increasing housing allowances to eliminate out-of-pocket costs for off-post

Table 3.2
Operating Expenditures Versus Housing Allowances at Army Installations

Installation	FY94 Operating Exp. per Unit	Annual BAQ/VHA (Equivalent to BAH)			
		E-1 with Dependents	E-6 with Dependents	O-3 with Dependents	O-6 with Dependents
Fort Bragg	\$4,602	\$5,162	\$6,622	\$7,918	\$10,405
Fort Campbell	4,526	4,077	5,795	7,009	9,968
Fort Carson	3,881	5,091	7,224	8,437	10,798
Fort Drum	8,372	4,527	6,806	7,474	10,812
Fort Hood	4,292	4,875	6,838	8,393	10,956
Fort Irwin	4,784	4,997	7,359	7,650	11,432
Fort Lewis	4,633	5,392	7,822	9,131	11,223
Fort McCoy	17,026	3,942	5,692	7,009	9,968
Fort McPherson	12,988	5,463	7,557	8,868	11,216
Fort Polk	4,007	3,942	5,692	7,009	9,968
Fort Riley	4,058	4,218	5,692	7,660	9,968
Fort Sam Houston	7,527	5,244	7,149	8,841	10,949
Fort Stewart	3,474	4,891	6,622	7,009	9,968

SOURCE: Joseph G. Bolten et al., *Understanding and Reducing the Costs of FORSCOM Installations*, Santa Monica, CA: RAND, MR-730-A, 1996.

⁵¹Congressional Budget Office, *Military Family Housing in the United States*, September 1993. Later studies by the GAO, DoD, and Center for Naval Analyses also found similar results, although estimates of the cost differential varied.

housing (and also to improve the revenue stream available for privatized on-post housing);⁵² and maintaining military construction funding.⁵³

MAJOR INITIATIVES: UNITED KINGDOM

In this section we discuss three types of private-sector initiatives used to finance MoD housing. First, the MoD sold nearly 80 percent of its married quarters housing in the United Kingdom to Annington Group for £1.662 billion⁵⁴ in 1996. The MoD leases back housing needed for service families and is responsible for its maintenance and renovation to current standards. Second, the DHE is using the Private Finance Initiative to build married quarters housing in areas with expanded housing requirements due to consolidation. Third, PFI is also being used by service commands to renovate barracks accommodation.

Privatization of Married Quarters Housing

The decision to privatize the bulk of the MoD's married quarters housing was made in August 1994.⁵⁵ NatWest Markets was hired in November 1994 to develop a proposed structure for the sale. It recommended that the housing be sold as one large portfolio to a single purchaser rather than in smaller disposals over time. The sale involved 57,400 housing units in England and Wales.⁵⁶ Approximately 2,400 of the units were surplus and would be immediately available for sale by the new owners. The remaining units were sold on 999-year leases (one for each of 739 sites), to be leased back to the MoD on 200-year underleases. The initial rent was set at £28 million per quarter (or £111 million per year), with a rolling program of rent reviews at five-year intervals, based on local market rent comparisons.

To reduce bidders' uncertainty about the rate at which MoD would vacate and release housing for sale, the MoD guaranteed that it would surrender a minimum of approximately 700 units per year for the first 25 years of the underleases, and it also set minimum rental payments for the first 25 years. The

⁵²Higher housing allowances could allow service families to move from inadequate on-post housing into acceptable off-post housing. Service families in privatized on-post housing pay BAH to the contractor, so higher housing allowances could also make privatization projects easier to finance.

⁵³James T. Lipham, "Residential Communities Initiative," presentation to the Professional Housing Management Association's Industry Forum, February 14, 2000; Assistant Secretary of the Army (Installations and Environment), "Partnering with Private Enterprise," speech to the Association of the United States Army, October 13, 1999; and Deputy Under Secretary of Defense (Installations), testimony before the Subcommittee on Military Construction of the House Appropriations Committee, March 15, 2000.

⁵⁴Approximately \$2.7 billion at current exchange rates.

⁵⁵This section is a summary of a more detailed description of the sale given in Appendix F. It is based primarily on the U.K. National Audit Office's description of the sale. See National Audit Office, *The Sale of the Married Quarters Estate*, HC 239 Session 1997-98, August 1997.

⁵⁶Married quarters housing in Northern Ireland was excluded for security reasons; housing in Scotland was excluded because Scottish law prohibits residential property leases of more than 20 years, with no right of renewal by the tenant. Approximately 6,300 units in England and Wales were excluded, 1,500 already in the process of being sold or leased to the private sector, 3,000 being used by visiting U.S. forces, and official service residences that could not be physically separated from surrounding nonresidential facilities.

MoD has the right to release housing to the contractor for resale by terminating its underleases at any time with six months' notice.⁵⁷ The new owners also have the right to terminate underleases at breakpoints falling between the 25th and 28th year, and every 15 years thereafter, except for sites located within secure areas. They must either offer comparable alternative accommodation (based on commuting time, standard of nearby schools, and job opportunities for spouses) or demonstrate the intention and the ability to redevelop the site. If the new owners make an unexpectedly high profit on released units, the contract includes a "clawback" provision that returns a share of these profits to the MoD.

The DHE is responsible for maintaining and upgrading houses leased back from the new owners, identifying surplus housing units, performing construction work needed to separate surplus sites from adjacent bases, and allocating houses to service families. The DHE also serves as the point of contact for notification and transfer of released housing units, negotiation of rent reviews, and enforcement of clawback provisions. The MoD was advised by NatWest Markets to exclude the maintenance and upgrading of the housing from the contract because of a lack of detailed and reliable historical data on the condition of the housing and the costs of maintaining it, making it difficult for bidders to assess the liability. However, the decision to exclude maintenance and upgrading limited risk transfer and potential management savings.

Approximately 5,500 copies of a Preliminary Information Memorandum describing the features of the sale were distributed in November 1995. The memorandum generated 43 prequalification applications, which were submitted in January 1996. A full Information Memorandum was sent to 40 bidders who passed the prequalification stage. Of the 40 prequalified bidders, 19 submitted preliminary, nonbinding bids. Based on an evaluation of the preliminary bids, 4 short-listed bidders were invited to submit binding offers. The MoD also decided to ask 2 of the last 4 bidders to submit a "best and final" offer.

Two of the highest bidders in the first round were rejected based on criteria other than price, particularly finance and deliverability. The Annington Group, which submitted the highest bid in the second round and the highest best and final offer, was selected as the preferred bidder in September 1996. The Group consisted of Nomura International plc, Amec, BlackRock UK Partners, Electra Fleming Ltd., Abbey National Treasury Services, Hambros Bank, the Midland Bank, and the Royal Bank of Scotland. The winning bid of £1.662 billion compared favorably with external appraisals but was somewhat lower than the internal appraisal of continued in-house ownership, as shown in Table 3.3. £100 million of the sales price was set aside to help pay an expected cost of £470 million to upgrade the privatized housing to current MoD standards. The remainder was returned to the Treasury.

Following a National Audit Office report on the sale, the Committee of Public Accounts criticized the sale because the price was below the estimated value of continued in-house ownership, and because it was primarily a financial

⁵⁷Housing released to the contractor must be in "tenantable condition." MoD can avoid its maintenance obligations only by demolishing the houses with the contractor's consent. In such circumstances, the MoD may have to pay compensation or reinstate the housing lost.

Table 3.3
External and Internal Appraisals of Sale Value

Appraiser	Basis	Appraisal	MoD's Gain/Loss Relative to Winning Bid
Savills	Value to purchaser	£1.35–1.5 billion	+£162–312 million
NatWest Markets	Likely cash flows	£1.48 billion	+£182 million
MoD	Value of continued in-house ownership	£1.712–1.974 billion	–£77–139 million

SOURCE: National Audit Office, *The Sale of the Married Quarters Estate*, HC 239 Session 1997–98, August 1997, p. 3.

NOTE: MoD's internal valuation depends on a number of assumptions, including the rate at which properties would be released for sale, the resulting sales prices, and the realization of redevelopment value if excess properties were sold piecemeal.

transaction instead of a true transfer of risk and management responsibility to the private sector. The sale transfers to Annington the risks, as well as the potential rewards, of dealing with married quarters declared surplus by the MoD. However, MoD retains risks, costs, and management responsibility associated with future rental costs and continued maintenance and upgrading of the housing.⁵⁸

Private Finance Initiatives for Family Housing

Due to consolidation and relocation of military units and depreciation of the existing housing stock, the MoD is using PFI to build additional long-term housing in some locations. PFI, under which the contractor builds, owns, and maintains the housing stock, is now the preferred option for building new homes and refurbishing old ones. PFI is being applied across the United Kingdom, including Northern Ireland,⁵⁹ and at British bases in Cyprus and Gibraltar. The advantages of PFI are that the MoD can have housing built and upgraded without an initial investment of public capital, it gains access to private-sector project and financial management skills, and it can transfer some risks to the contractor.

Since most of the housing in England, Scotland, and Wales managed by DHE has already been privatized, the DHE uses PFI only for new housing. A small PFI staff within the DHE handles PFI deals. As of December 1999, DHE had completed four PFI deals and had two in progress. (See Table 3.4.)

Housing PFI projects are located outside installations, so that the contractor will be able to sell or lease houses that MoD no longer needs. Most service families prefer to live off the installation because of better access to schools and employment for spouses. Winning bidders are usually consortia of construction companies, facilities maintenance providers, and banks or finance companies,

⁵⁸See Committee of Public Accounts, Forty-Eighth Report, *Ministry of Defence: Sale of the Married Quarters Estate*, p. vi.

⁵⁹In Northern Ireland, housing is managed directly by the MoD rather than by DHE. One PFI project is in an advanced stage and will transfer 600 houses to the private sector and require the construction of 350 new houses. MoD is planning an additional PFI contract to transfer its remaining housing stock in Northern Ireland to the private sector.

although the Cosford/Shawbury contract was awarded to a social housing association. The contract length is typically 20–30 years.⁶⁰

As the DHE has gained experience with PFI, it has standardized the solicitation process. Bidders are first asked to complete a prequalification questionnaire, which is evaluated on the basis of the bidder's technical and operational capability to provide the required services and its economic and financial standing. Four to eight bidders may be asked to provide presentations of their proposals. Based on prequalification submissions, 3–4 bidders will be short-listed and given invitations to negotiate. These bidders will be given further instructions, including conditions of tender, evaluation criteria, output specification, and draft contractual terms. During the negotiation stage, contract requirements and the allocation of risk will be negotiated with the bidders. As DHE has standardized the information given to bidders, including a near-complete "bankable" contract, the negotiation period has been significantly reduced.

At the conclusion of the negotiation stage, bidders submit their formal offers. They may be asked to clarify their bids, and the bids may be subject to further negotiation. The bidders may then be asked to submit best and final offers. The DHE selects a preferred bidder based on the evaluation criteria and on a comparison with the lifetime costs of the project if it had been built by the MoD (the Public Sector Comparator). The project must also provide an adequate transfer of risk to the contractor so that it will be considered "off the balance sheet" of the MoD. The preferred bidder negotiates the final contract with the DHE.⁶¹

Table 3.4
Housing PFI Projects

Location	Number of Units	Date Advertised	Contract Signed	Project Completed
Lossiemouth	279	Dec. 1996	June 1998	Sept. 1999
Yeovilton	88	Jan. 1997	July 1998	March 2000
Cosford/ Shawbury	145	June 1997	March 1999	May 2000*
Central Scotland	164	Jan. 1999	Aug. 1999	Jan. 2001*
Abbey Wood	335	July 1999	Oct. 2000*	March 2002*
Wattisham	250	Sept. 1999	Oct. 2000*	March 2002*

*Target date for contract signature or project completion.

SOURCE: Ministry of Defence, "Ministry of Defence: PFI Projects," MoD Web page, <http://www.mod.uk/commercial/pfi.htm>, downloaded December 14, 1999; and Public/Private Partnership Unit.

⁶⁰In Scotland, residential property leases are limited to 20 years, as noted above. In other areas, contracts are usually longer to reflect the nature of the asset and the available finance period.

⁶¹The MoD is subject to EU Procurement Directives covering goods, services, and "major works." They define a small number of allowable bidding procedures. The default is the "open procedure," under which invitations to bid must be issued and bids accepted throughout the EU. Under certain conditions, a "restricted procedure" may be used to limit invitations to a short list of prequalified bidders. However, there are exemptions for projects below specific value thresholds or those that raise specific national security concerns.

The MoD typically agrees to lease all of the houses for the first ten years of the contract. After the tenth year, it specifies the rate at which houses become "noncore." MoD has the option to continue to rent noncore houses or release them to the contractor. It may also claim back houses released to the contractor, but the contractor has the option to provide alternative accommodation if the original units are unavailable, e.g., because they have been sold by the contractor. The contractor also bears cost and schedule risk during the construction phase. No payments are made by MoD until the houses are available to be occupied, and some contracts include liquidated damages for late delivery. After the houses have been occupied, payments can be deducted if housing becomes unavailable (either the whole house or a room) or for poor performance, such as slow maintenance response time.

At the end of these contracts, the MoD will have the option to renegotiate the lease for an additional 20–25 years, release the houses to the contractor, or buy the houses from the contractor at their future market value and operate them as MoD-owned housing.

To date, no housing PFI projects have taken place to renovate or expand housing in areas leased to Annington. It is not clear how another contractor could retain ownership of the housing, given the terms of the lease to Annington Group. It might be possible for MoD to negotiate a PFI project with Annington to build or upgrade additional housing in leased areas, but MoD would be negotiating with a sole bidder and might therefore have less competitive leverage.

Private Finance Initiatives for Barracks

PFI projects have also been initiated or proposed for accommodation in barracks or at training schools, including Chelsea Barracks, Colchester Garrison, JSU Northwood, the Royal Logistics Corps Training Group, Aldershot Barracks, and Tidworth Garrison. These projects are controlled by the commands that operate the installations, not by any centralized MoD organization. In this subsection we will discuss the Colchester Garrison project as an example.

Under the Competing for Quality program, Colchester Garrison held a competition for a multiactivity service contract in 1994–1997, including an in-house bidder. However, the resulting savings were not enough to justify any change. In 1996, a review of the garrison's operations highlighted inefficient use of land and inadequate maintenance standards, and it proposed a substantial rebuild or refurbishment of facilities. A PFI project to rebuild the garrison, including accommodation for 3,500 military personnel and training, recreation, education, and welfare facilities, was initiated in September 1996. The bidding process began in February 1997, but the preferred bidder was not chosen until October 1999. The entire process will probably take about 4.5 years because of changes in the mission requirement for Colchester Garrison due to the Strategic Defence Review, and the number of high-level approvals required to finalize the contract, which has not yet been signed.

The goals of this PFI project are to improve the quality of the barracks accommodation, co-locate living, working, and training facilities to reduce travel

time, reduce the life-cycle costs of the facilities, and release excess property for local development. The contractor will take over the entire garrison area and can sell or develop any excess land to help finance the rest of the project.

The bidding process was similar to the PFI projects for family housing. Bidders were asked to submit preliminary qualifications, including outline plans and costs. A short list of three bidders was chosen to submit more detailed proposals. Although the evaluation team preferred the design of one of the bidders, they ultimately selected another as the preferred bidder because of some unacceptable contract clauses that were added to the first bidder's final offer. Under EU procurement regulations, the evaluation team could not negotiate any further changes to the bids at that stage.

The duration of the contract is expected to be 35 years, but the contractor will retain a lease for a further 100 years. At the end of the 35-year period, MoD can leave the site and allow the contractor to sublease or redevelop it, or renew or rebid the contract. MoD would have to compensate the contractor if it broke the initial 35-year contract, whereas the costs of MoD construction on the site would largely be sunk. Thus, the financial consequences of a decision to move the brigade out of Colchester will be changed by the contract, once it is signed.

MAJOR INITIATIVES: UNITED STATES

The U.S. Army is also trying to leverage private-sector finance and expertise to improve family housing. In 1996, Congress passed the Military Housing Privatization Initiative, which allows the services to convey land and existing assets to the private sector to encourage investment in housing. Under this legislation, DoD is permitted to:

- Offer direct loans (with below-market interest rates, deferred payments, or extended terms) or loan guarantees for military-related risks (i.e., base closure, downsizing, and extended deployments) to contractors;
- Agree to lease units or provide a guaranteed occupancy level;
- Pay the difference between BAH and rental rates required to obtain private-sector financing;⁶²
- Convey property and facilities without being subject to ordinary restrictions, such as the Federal Property and Administrative Services Act and the McKinney Homeless Assistance Act;
- Enter into partnership arrangements with a 33 percent cash contribution, or 45 percent if land is part of the government contribution;
- Build houses to local commercial standards rather than military specifications; and
- Include "ancillary facilities" such as child care centers, community centers, and housing offices.⁶³

⁶²Under privatization, service families receive BAH rather than rent-free on-post housing, but their rental payments cannot exceed BAH. If the BAH rental stream is not sufficient to cover construction and operating costs, DoD can provide additional funding to attract private-sector bidders.

⁶³See United States Army, "The Army's Residential Communities Initiative," downloaded from Residential Communities Initiative Web page, <http://rci.army.mil/>, November 29, 1999.

Following the passage of this legislation, housing privatization was centrally managed by DoD under the joint Housing Revitalization Support Office (HRSO). However, only two on-post privatization projects had reached the solicitation phase by 1998. One of these was the privatization of housing at Fort Carson, Colorado, under the Community Venture Initiative.

According to a General Accounting Office (GAO) report, implementation of the privatization legislation was slower than expected because it represented a new way of doing business for both the military and the private sector. Initially, HRSO had to develop protocols for site visits and new methods of assessing the financial feasibility of the legislative authorities. As potential projects were developed, legal issues relating to the applicability of the Federal Acquisition Regulations and the Federal Property Regulations had to be addressed. In addition, new procedures had to be developed to provide direct loans and loan guarantees and to convey land to contractors. Another factor that slowed implementation was disagreement between DoD and the Office of Management and Budget (OMB) on how the legislative authorities should be "scored," i.e., whether they created current-year financial obligations for future expenditures. In June 1997, DoD and OMB adopted a written agreement providing detailed scoring guidance for the first 20 privatization projects.⁶⁴

In October 1998, DoD delegated execution of housing privatization to the services while maintaining oversight responsibility. This decentralization of authority has significantly increased the number of projects in solicitation and allowed the services to test the various approaches allowed by the legislation. The Army is currently conducting three pilot projects under the Residential Communities Initiative (RCI). The Community Venture Initiative and the Residential Communities Initiative are described in greater detail below.

Following the completion of the pilot projects, the Army planned to extend the privatization program to cover all family housing in the continental United States. However, the Conference Report for the 1999 Military Construction Appropriations Act and a June 1999 letter to the Secretary of Defense from the Subcommittee on Military Construction, House Committee on Appropriations, cited concern that the initiative was a pilot program and not a substitute for traditional military construction. As a result, the Army scaled down its plans to the current set of pilot projects.⁶⁵

Under the various privatization initiatives, service members living in privatized housing will receive the same housing allowance given to service members living off-post, which will be paid as rent to the contractor. However, the income stream from housing allowances is not usually sufficient to finance

⁶⁴See U.S. General Accounting Office, *Military Housing: Privatization Off to a Slow Start and Continued Management Attention Needed*, Washington, D.C.: U.S. General Accounting Office, GAO/NSIAD-98-178, July 1998. Three of the twelve legislative authorities (build and lease, rental guarantees, and interim leases) are unlikely to be used under the guidance because DoD would have to set aside funds to cover the value of these commitments up front. After the first 20 projects are completed, the scoring guidance will be reviewed to determine whether any changes are needed.

⁶⁵See U.S. General Accounting Office, *Military Housing: Continued Concerns in Implementing the Privatization Initiative*, Washington, D.C.: U.S. General Accounting Office, GAO/NSIAD-00-71, March 2000. The subcommittee was concerned because the Army's FY00 military construction budget requests included no family housing projects in the continental United States.

redevelopment; because the housing allowance is statutorily limited to 15 percent below market rents, on-post housing is typically of better quality than off-post housing that is affordable on the housing allowance, and military bases have unique risks associated with base closure, downsizing, and deployments. As a result, housing privatization projects have typically involved a combination of the other financing instruments available under the legislation, including direct loans, equity investments, differential lease payments, loan guarantees, and conveyance or lease of land and housing units.⁶⁶

Community Venture Initiative

The Fort Carson housing privatization was conducted using DoD's traditional contracting approach, which requires bidders to submit extensive proposals in response to a detailed Request for Proposals (RFP).⁶⁷ The RFP specified the grade mix (officer and enlisted) and siting of the housing, the lease and payment method that soldiers would use, and the desired renovation features and amenities. Proposals were required to include:

1. A design plan, including a site plan with streets, grading, housing, recreation areas and utility locations, floor plans and elevations of proposed new housing, and proposed short-term renovations;
2. A maintenance plan, including routine and preventative maintenance and repair, emergency calls, trash and snow removal, and grounds maintenance;
3. A detailed description and schedule for proposed long-term renovations;
4. A construction plan, including phasing and quality assurance;
5. A financial plan to cover total project costs (including amenities), sources of equity, conditional loan commitments, a proposed reinvestment plan, and management of escrow accounts for repair, construction, and renovation;
6. A management plan, including proposed organizational structure, roles and responsibilities, past experience, and resumes of key personnel;
7. Description of past performance on similar work, with references; and
8. A small business subcontracting plan to comply with required goals.

The Fort Carson project illustrates the slow progress in implementing the Military Housing Privatization Initiative. In October 1993, the Army requested \$16.5 million in military construction funds to renovate 142 family housing units at Fort Carson in FY95. However, the construction was postponed when the Army decided to try to leverage the funds through privatization to finance a much larger housing improvement project. An HRSO team visited Fort Carson in December 1995 and, after study and analysis, concluded in June 1996 that it

⁶⁶See Deputy Under Secretary of Defense (Installations), testimony before the Subcommittee on Military Construction of the House Appropriations Committee, March 15, 2000.

⁶⁷The discussion in this section is based on Steven Hill, "Ft. Carson Community Venture Initiative Privatization of Family Housing," presentation to the Professional Housing Management Association's Industry Forum, February 14, 2000; and U.S. General Accounting Office, *Military Housing: Privatization Off to a Slow Start and Continued Management Attention Needed*, Washington, D.C.: U.S. General Accounting Office, GAO/NSIAD-98-178, July 1998.

Table 3.5
Fort Carson Community Venture Initiative Timeline

Action	Date
HRSO team visits Fort Carson	Dec. 1995
Privatization project recommended	June 1996
Privatization project approved	Aug. 1996
First RFP issued	Dec. 1996
Contractor selected	July 1997
Congress notified of intention to award contract	Feb. 1998
Competition canceled	Apr. 1998
Second RFP issued	Sept. 1998
Proposals received	Jan. 1999
Contract awarded	Sept. 1999
Contract closing/notice to proceed	Nov. 1999
Construction started	March 2000
Construction complete	Sept. 2004

was a good candidate for privatization. The project was approved in August 1996, and an RFP was issued in December 1996. A contractor was selected in July 1997, and DoD notified Congress of the Army's intent to award the contract in February 1998. However, as a result of litigation, the Army canceled the proposed award in April 1998. As a result of the adjudication of the protest, the RFP was revised and the competition was restarted in September 1998. The timeline for the initiative is shown in Table 3.5.

Under the Fort Carson contract, the winning bidder, J.A. Jones, will renovate all 1,823 existing housing units and construct 840 new family housing units within 5 years. Over the 50-year lifetime of the contract, the 1,823 existing units will be demolished and rebuilt, and the 840 new units will receive major renovations. Amenities will include playgrounds, landscaping, lawn irrigation systems, and extensive jogging and biking trails. Additional funds for discretionary purposes will be set aside in a reinvestment account, with local input into its use, which could include youth centers, child care centers, etc. J.A. Jones' maintenance plan is ISO 9001 certified,⁶⁸ and the contract provides for improved responsiveness to residents' maintenance requests.

The contract will be administered locally by the Fort Carson contracting office. Fort Carson retains control of the housing referral office and will maintain the waiting list for on-post housing. The Army has agreed to provide referrals to the contractor, but soldiers are not required to live in on-post housing. Fort

⁶⁸The ISO 9000 family of standards, promulgated by the International Organization for Standardization, represents an international consensus on good management practices with the aim of ensuring that an organization can consistently deliver products or services that meet its customers' quality requirements. ISO 9001 sets out the requirements for organizations whose business processes range from design and development to production, installation, and servicing. See http://www.tc176.org/faqs/faqs_main.html.

Carson will continue to provide utilities and police and fire protection. The Army also provided a 30-year loan guarantee against base closure or a significant downsizing involving 40 percent or more of the soldiers stationed at Fort Carson.

The initial experience with the contractor has been positive. Over 200 housing units that were unavailable due to a maintenance backlog were immediately repaired and leased to soldiers after the contractor took over. The occupancy rate has increased from 85 percent to 95 percent. When construction is completed, the proportion of soldier families housed on post should rise from 17 percent to 27 percent. However, some issues have arisen that are likely to be addressed in future privatization projects.

1. Signing leases for on-post housing was a cultural change for soldiers, made more difficult by some of the lease terms, which were specified by the Army. The leases were annual with terminations allowed only for military reasons (e.g., discharge, reassignment to another post). However, the contractor agreed to allow terminations with 30 days' notice, since Fort Carson typically has a waiting list of 18–24 months for on-post housing.
2. The Army no longer provides coverage for property loss or damage in on-post housing, so soldiers will have to buy their own insurance coverage. The Army may be able to get a discount for soldiers if it establishes a group coverage contract with an insurance company.
3. Army provision of utilities may reduce the contractor's incentive to build energy-efficient housing and residents' incentives to conserve energy.
4. Improvement contracts in progress valued at \$3.5 million had to be terminated at the time of the privatization, because government funds cannot be spent on private property.

The GAO has also expressed general concerns about DoD's housing privatization plans. Since no privatization projects have been fully implemented, there is little basis on which to evaluate whether the program can ultimately achieve the goal of eliminating inadequate housing faster and more economically than traditional military construction financing. It is not clear whether contractors will have sufficient incentives to operate and maintain housing in a manner that meets service members' expectations, or whether the housing will be needed over the typical 50-year life of the contracts. If the privatized units are not needed, the contracts allow civilians to rent the units, creating concerns about the implications of civilians living on military bases. Finally, DoD does not have an evaluation plan to measure the progress and effectiveness of the initiative. However, the Army has plans to collect and measure data on contractor response times to maintenance requests, time required for the contractor to prepare a vacated unit for the next occupant, completion of recurring maintenance needs against established schedules, payment of mortgages and other financial requirements in accordance with schedules, and satisfaction of military occupants with the housing.⁶⁹

⁶⁹See U.S. General Accounting Office, *Military Housing: Continued Concerns in Implementing the Privatization Initiative*, Washington, D.C.: U.S. General Accounting Office, GAO/NSIAD-00-71, March 2000.

Residential Communities Initiative

The Residential Communities Initiative will initially consist of three pilot projects at Fort Hood, Texas, Fort Lewis, Washington, and Fort Meade, Maryland, representing approximately 14 percent of the Army's housing stock.⁷⁰ (See Table 3.6.) RCI is intended to streamline the source selection process and to create a partnering relationship between the Army and the contractor.

Table 3.6
Residential Communities Initiative Pilot Projects

Installation	Current Number of Housing Units	RFQ Issue Date	RFQ Closing Date
Fort Hood, TX	5,482	August 1999	November 1999
Fort Lewis, WA	3,590	December 1999	February 2000
Fort Meade, MD	2,862	April 2000	June 2000

SOURCE: Army Residential Communities Initiative Web page, November 29, 1999.

To streamline the normal contracting process for housing, the Army is using a 22-page Request for Qualifications (RFQ) that focuses on the bidders' experience and capabilities instead of the lengthy RFP used for Fort Carson, which specified requirements in great detail and also required bidders to submit a lengthy, detailed proposal. Under the RFQ approach, bidders must provide:

1. A list describing development and facilities management experience related to the provision of military housing, including details on the bidder's five most recent projects.
2. A preliminary project concept statement describing the bidder's vision, strategy, and approach to improving and maintaining the military family housing community at the installation.
3. Documentation of financial capabilities, including audited financial statements, ability to obtain financing for the project, and a long-term financing strategy for the project.
4. Organizational capabilities, including the firm's history and background, ability to plan, develop, manage, and maintain large-scale residential development projects, and key personnel to be assigned to the project.
5. References for past performance, including major customers, business partners, financial institutions, and local government agencies, and descriptions of any past financial problems or litigation.
6. Expected financial rate of return, sources of capital, and use of financial arrangements permitted under the legislation, and how these relate to the bidder's plans for reinvestment in housing at the site.
7. Extent of small business participation as subcontractors.

⁷⁰The material in this section is based on United States Army, "The Army's Residential Communities Initiative" and "Fort Hood, Texas: Request for Qualifications," downloaded from Residential Communities Initiative Web page, <http://rci.army.mil/>, November 29, 1999.

Bidders must fulfill a minimum experience requirement that they (or principal members of the bidding team) have served as the primary developer with an ownership interest in at least three completed development projects with at least 350 low-rise multifamily or detached family housing units, and have managed and operated at least three development projects that included a residential component of at least 350 units. For bidders that meet the minimum requirements, the seven evaluation criteria correspond to the seven categories of information that must be submitted.

The selected developer will first be asked to work closely with the Army to develop a Community Development and Management Plan (CDMP) for the project. The CDMP will include a business plan and the terms of the developer's long-term relationship with the Army. The developer will be paid a fixed fee of \$350,000 for the completion of the CDMP. The Army will then decide whether to implement the CDMP with the selected developer, or to use it as a basis to recompet the project.

Since no contracts have yet been awarded, it is too early to evaluate the Army's RCI pilot projects. If they are successful, and the enabling legislation is extended beyond its initial period of 5 years, the Army hopes to be able to extend the RCI concept to all family housing located in the United States to meet its goal of upgrading all substandard family housing by 2010.

LESSONS LEARNED

In addition to the overarching lessons learned from MoD outsourcing and privatization, which are discussed in the previous chapter, several important issues emerge from the MoD's and the U.S. Army's experience with housing.

1. The military must take a strategic view of long-term contracts for housing.

The long-term contracts and leases signed for PFI projects and housing privatization change the financial consequences of decisions to relocate activities, although MoD's contract options to vacate housing at predefined rates give some flexibility. Flexibility may also be limited in other respects. For example, the terms of the lease with Annington Group make it difficult for the MoD to use PFI projects to renovate or upgrade the privatized housing, and the Colchester Barracks PFI would change the financial consequences of a decision to move the brigade out of Colchester during the 35-year contract period. Therefore, rather than enter into projects in a piecemeal or ad hoc fashion, it is necessary to take a strategic view of housing privatization projects and how they commit the MoD or DoD to future expenses.

2. Housing decisions should account for links between housing quality and retention.

The quality of married quarters housing and barracks accommodation can have substantial effects on retention, and thus on recruiting and training costs. If

service members' housing is below civilian standards, they will be less likely to reenlist. Service families also expect military communities to provide amenities and a support structure when service members are deployed for extended periods. Currently, the MoD and the DoD do not have good measurements of these effects, and therefore it is difficult to evaluate the tradeoffs between the costs of higher-quality housing and other costs when selecting PFI contractors.

3. Competitive tendering rules should not impede the selection of the design offering best value for money.

In the case of the Colchester Barracks PFI, the MoD was not able to select the contractor that presented the best design because of technical and legal features of the proposal. Under EU competitive tendering rules, MoD staff can point out the weaknesses in bidders' proposals but not suggest how to remedy them. In the private sector, buyers can choose the contractor they prefer and negotiate contract details afterward.

4. Commercial building standards offer cost advantages over military building standards.

Strict government building standards for housing and barracks accommodation often differ from commercial standards for similar buildings. As a result, the MoD and the DoD may pay more for buildings built to military standards. In some cases, the costs of building to an MoD design that is nonstandard in the commercial sector have exceeded the market value for a house.

5. Political influence can lead to suboptimal contracts.

Although it is important to have top-level political buy-in for outsourcing and privatization to proceed, political influence may also cause the MoD or the DoD to enter into suboptimal contracts. For example, the married quarters housing privatization was on a tight timeline in order to be completed before an upcoming election. In retrospect, it might have been better to delay the sale so that responsibility for maintenance and upgrading of the housing could have been transferred to the private-sector owner.

4. Base Operations

This chapter discusses innovative methods of providing military base operations services in the United Kingdom, with comparisons to the U.S. Army. We define base operations broadly, to include support services provided on installations and in deployment, as well as construction and property management.⁷¹ We begin by providing background information on military base operations services in the United Kingdom and the United States. We then describe major military base operations initiatives in both countries. We conclude with lessons learned based on the British and American experiences.

The discussion draws on a number of initiatives by the U.K. MoD and the U.S. Army regarding alternative methods of providing government activities and services, ranging from specific service functions on a single base to the design and management of large-scale construction projects.

BACKGROUND: UNITED KINGDOM

Greater use of the private sector to provide MoD support services has been a specific objective of government policy since 1979, and the MoD's use of contractors has increased considerably since the early 1980s. Early outsourcing efforts were based on "market testing," i.e., a comparison of contractor bids with the in-house cost of providing the same services with public-sector employees. In some cases, efficiency improvements were built into public-sector cost projections, but often the comparison was simply with current public-sector costs.

In 1985, the government made it mandatory for MoD to market test catering, cleaning, laundry, security guarding, and minor grounds and building maintenance. But since the potential savings in these areas was relatively small, the MoD began to market test other, nonmandatory services, such as engineering and supply, range operation and support, and some types of training, in the hope of achieving greater savings. The MoD also combined multiple activities into a single contract in many cases. The development of service-level agreements and the creation of a single point of responsibility were key to achieving benefits from market testing.

Table 4.1 shows the number and value of competitions and first-year savings from market testing from 1987 to 1992. On average, first-year savings from market testing were 24 percent of previous costs. Among the mandatory services, over 90 percent of laundry and cleaning services were contracted out; 84 percent of catering units were market tested and 69 percent were contracted out by 1991, including competitions held before 1987. Relatively less progress had

⁷¹Although some of these examples may not fall under the traditional definition of base operations services, we include them in our discussions to highlight innovations in providing or acquiring military services.

Table 4.1
Progress of Market Testing, 1987–1992

Activity	Number of Competitions	Value of Activity (£'000)	Estimated First Year Savings (£'000)
Mandatory			
Cleaning	11	1,133	308
Catering	72	23,562	5,011
Combined cleaning and catering	65	21,288	5,285
Security	26	5,191	2,089
Laundry	1	203	45
Minor maintenance	7	297	91
Subtotal	182	51,674	12,829
Nonmandatory			
Aircraft maintenance/support	3	3,273	1,378
Engineering and supply	5	19,257	8,023
Range operation and support	7	10,885	2,441
Training/instruction	7	5,762	(162)
Bird control	7	1,092	101
Tank cleaning lighters	1	1,267	100
Ground clothing warehousing	1	1,490	620
Ground duty posts	1	967	143
Parachute servicing	1	2,380	384
Test site	1	1,202	37
Printing	1	983	334
Other nonmandatory	29	5,171	2,261
Subtotal	64	53,729	15,660
Total	246	105,403	28,489

SOURCE: Committee of Public Accounts, Fortieth Report, *Ministry of Defence: Competition in the Provision of Support Services*, May 1993, p. 2.

been made in minor maintenance and security guarding, and further contracting out of security guarding was put under review in 1989 because of an IRA bombing at Deal.⁷² Although unarmed security guarding is still a part of current contracts, the MoD has established upper limits on this aspect of outsourcing.

Under current MoD policy, base operations services are evaluated for public- or private-sector provision based on government-wide guidelines. The U.K. government, in "White Papers on the Comprehensive Spending Review and Modernising Government," articulated a "vision of the way public services

⁷²See National Audit Office, *Ministry of Defence: Competition in the Provision of Support Services*, July 1992.

should be delivered."⁷³ In determining how to provide better services, U.K. government staffs progress through a set of assessments known as the Prior Options Review process to determine whether a service is needed and, if it is needed, whether it should be privatized (fully or partially) or remain as a government agency (either vote-funded or as a trading fund).⁷⁴

In the areas of construction and property management, the Defence Estates Organisation was formed in 1995 to provide professional estate advice and services to support the management of MoD's land, buildings, and installations to meet its operating needs. DE was composed of various professional functions (such as engineering, surveying, property management, and construction contracting) that were transferred to the MoD following the 1990 breakup of the Property Services Agency (PSA), which had previously managed construction and facility maintenance for all government departments. In 1999, DE became responsible for central strategic management of the defense estate, while the funding and ownership remained with budget holders.

The estate totals approximately 600,000 acres (240,000 hectares) in the United Kingdom, approximately 350,000 acres (140,000 hectares) of which are "rural training land." The estate is valued at £14 billion, requiring approximately £1.7 billion in annual construction and maintenance expenditures. Approximately 5,000 people are involved in managing the estate.⁷⁵ DE provides advice on construction and property management to top-level budget holders (e.g., military commands), who retain accountability and funding responsibility for the property they occupy.

DE became an agency in 1997. As an agency, DE must develop a five-year corporate plan, including key performance indicators and targets, and annual business and training plans describing how performance targets will be met. DE's estimated agency operating cost for 1998–1999 was £51.90 million, compared with £62.12 million in 1996–1997, the year before it became an agency. DE attributes much of this reduction to improved efficiency in spite of a higher level of management activity.⁷⁶

BACKGROUND: UNITED STATES

The United States operates its military bases in a very decentralized manner. First, bases are operated by each service rather than by a centralized organization in the Office of the Secretary of Defense (OSD). The services have operating "ownership" of the bases, although the underlying property belongs to the federal government and is acquired and disposed of by the federal General Services Administration. Until the late 1980s or early 1990s, defense funds for programs and projects on a base were usually passed through a variety of functional offices from OSD, through the services, and then to a service major

⁷³National Audit Office, *Annual Report 1999—Helping the Nation Spend Wisely*, London: The Stationery Office, 1999, p. 2.

⁷⁴The Prior Options Review process is discussed in greater detail in Chapter 2.

⁷⁵Defence Estates, *Defence Estates Fourth Customer Conference*, briefing presented October 15, 1999.

⁷⁶Defence Estates, *Corporate Plan 1999–2004*, Sutton Coldfield, U.K.

subordinate command and to a base. These funds were generally “fenced,” i.e., a functional sponsor would provide the funds with the specification that they be used only in that sponsor’s functional area. For example, the Headquarters Department of the Army (HQDA) training directorate might provide funds for improvements to firing ranges; those funds then had to be spent on firing ranges, regardless of what other priorities the base commander might have established for improving the base.

More recently, OSD and the Army have adopted new funding techniques. Bases now submit annual budget requests to the appropriate Army major subordinate command and identify specific base areas that require improvement. These requests are reviewed by functional offices at the major subordinate command and at HQDA. Funds still flow from OSD to the Army and then to a major subordinate command through various functional accounts. However, the major subordinate commands now simply provide “guidance” to the installations on what funding requests the budget is intended to support, and the installations have flexibility in allocating those funds during the budget year if some diversion is necessary.

A distinction is made between construction, real property management, base operations support, and other spending on base. In terms of military construction, family housing and other construction are put into different categories. Construction other than for family housing is broken into major and minor construction projects in the congressional budget authorization. The Army can spend available funds up to a certain amount within its own management authority, but above that the request has to be specifically approved by the Congress. Construction funds cannot be diverted to base operations support or to repairs other than those approved in the budget. Similarly, funds allocated by the Congress for major repairs and renovations cannot be used to construct new facilities.

In general, the U.S. Army is more constrained than the U.K. MoD in pursuing outsourcing and privatization initiatives in base operating support activities. Members of Congress are very protective of military bases, DoD civilian jobs, and military construction spending in their states or districts. As a result, they have placed several different types of restrictions on outsourcing and privatization.

In most cases, Congress prohibits any support activity that employs more than 10 civilians from going directly to contract—it must be subject to a public-private competition.⁷⁷ The rules governing these competitions are laid out in the Office of Management and Budget’s Circular A-76, originally written in 1966, with revisions in 1979, 1983, and 1996. Hence, they are often referred to as “A-76” competitions.⁷⁸

⁷⁷Activities with 11–45 civilian employees can be converted directly to contract if all directly affected employees can be reassigned to other comparable federal government positions; activities with 11–65 civilian employees may use streamlined cost comparison procedures if the workforce is already certified as a Most Efficient Organization (defined below).

⁷⁸The discussion of A-76 competitions is based on Office of the Assistant Chief of Staff for Installation Management, “A-76 Cost Competition Studies,” “Competitive Sourcing Strategic Plan for the U.S. Army,” “Frequently Asked Questions,” and “Interim Guidance for Strategic and Competitive

The armed services are required to conduct an annual inventory of activities and classify personnel positions as inherently governmental, commercial activities exempt from competition, or commercial activities available for competition under Circular A-76. Activities are considered inherently governmental if they involve the exercise of discretion in applying government authority or the use of value judgments in making decisions for the government. Inherently governmental activities include command of military organizations, management and supervision of DoD personnel, criminal investigations, revenue disbursements, and control of federal funds. Commercial activities may be exempt from competition if they involve national defense or intelligence security, patient care at government-owned hospitals, core capabilities, or research and development, or if there is no satisfactory private-sector source available. In addition, Congress has excluded some personnel positions—such as security guards and fire fighters—from public-private competition. Congress also requires some contracts to be set aside for small, minority-owned, and women-owned businesses, and has made it difficult for DoD to bundle small contracts for individual services into broader contracts for a range of related services.

Under A-76, the Army develops a Performance Work Statement (PWS) describing the services to be performed. Based on the PWS, the Army solicits bids or proposals from private firms and develops a streamlined in-house organization called a Most Efficient Organization (MEO). The Army develops an in-house bid based on the MEO, using detailed costing rules. After a review by the Army Audit Agency, the in-house bid is compared to the lowest bid or best value proposal from the private sector. The activity is converted to contract if the savings from the private bid are greater than 10 percent of in-house personnel costs or \$10 million, whichever is less, to account for transition costs. The winning contractor must give displaced government employees “right of first refusal” for employment openings created by the contract. If the activity is retained in house, the commander must implement the MEO.⁷⁹

The Army had an active A-76 program in the early 1980s. Directorates of Logistics (DoLs) and Public Works (DPWs) and other functions such as custodial, laundry, and food services were subjected to public-private competitions at many installations. However, problems and concerns surfaced during some of these competitions, prompting Congress to pass the “Nichols Amendment,” which was in effect from 1987 to 1995. This law gave installation commanders the final authority to decide which functions to study for outsourcing. While this law was in effect, the number of A-76 studies completed each year declined dramatically. Additional impediments to A-76 studies included a policy introduced in the FY91 Appropriations Act limiting single-function studies to 2 years and multifunction studies to 4 years. This policy was applied retroactively to cancel any existing studies that exceeded the time limits. Further, the FY93

Sourcing Programs”; and Office of the Deputy Under Secretary of Defense (Industrial Affairs and Installations), “The Department of Defense Commercial Activities Program: Highlights of Policy and Procedures,” downloaded from <http://www.hqda.army.mil/acsimweb/ca/ca1.htm>, November 29, 1999.

⁷⁹The A-76 procedure is similar to market testing in the United Kingdom, except that market testing involves a comparison of contractor bids with the current costs of the in-house activity rather than with a streamlined version of the in-house organization.

DoD Authorization Act imposed a DoD-wide moratorium on awarding contracts resulting from A-76 competitions, which remained in effect until April 1, 1994.⁸⁰ As a result, very few competitions were completed between 1989 and 1996.

From FY79 to FY96, the Army completed 468 A-76 cost comparisons, covering 25,300 positions. In-house organizations won 240 of these competitions; contractors won 228. However, nearly two-thirds of the competed positions (13,000 civilians and 2,900 military) were converted to contract. A further 5,000 in-house positions were eliminated due to efficiency improvements in developing MEOs. Savings averaged 28 percent of precompetition costs, for a cumulative total savings of \$4 billion over the period.⁸¹

U.S. Army base commanders have not been strong advocates of outsourcing base operating support functions, because it limits their ability to reallocate funds among accounts. Under the current system, for example, base commanders can divert funds from the “operating tempo” accounts, i.e., those specifically earmarked for training and readiness, to base operations support if they can justify a need and demonstrate a linkage to better support of readiness. This is not a very precise constraint, since improvements to physical fitness center programs, child care, and other facilities are seen as contributing to improved soldier performance and morale, and hence to improved readiness. This works both ways—funds provided for base operations support can also be diverted to other programs by the base commander if deemed necessary.

Therefore, keeping base support operations “in house” provides a source of fungible funds for the base. Outsourcing or privatizing these activities requires a constant flow of funds to a contractor, which reduces the base commander’s discretionary funds. This has benefits and drawbacks: the benefit is that the facilities and services would not be subject to further deterioration (at least for the life of the contract or privatization agreement), while the drawback is that the base commander cannot divert funding to some higher-priority project that arises during the contract period. For example, the Army’s participation in recent humanitarian and peacekeeping operations has been funded in part by diversion of funds from installations and organizations by HQDA. When this occurs, the installations receive less funding than anticipated, and the installation commanders must decide how to allocate the shortfalls.

It is difficult to quantify the impact of these funding diversions on installation facilities and services, but there is obviously some deterioration occurring in Army facilities. One of the questions, then, is whether outsourcing and privatizing, with their requirement for fixed or obligated installation funding, are more beneficial to the Army in the long term, or whether other programs may be better. For example, closing more installations might reduce

⁸⁰See Edward G. Keating, *Cancellations and Delays in Completion of Department of Defense A-76 Cost Comparisons*, Santa Monica, CA: RAND, DB-191-OSD, 1997.

⁸¹These savings may be overestimated for several reasons. First, they involve comparisons between pre-A-76 costs and the winning bid or MEO, not actual costs incurred, which may differ due to changes in the scope of work or contract modifications. Second, they do not account for the right of senior government employees to displace more junior government employees both in the studied activity and elsewhere on the installation, while retaining their previous pay. See Albert A. Robbert, Susan M. Gates, and Marc N. Elliott, *Outsourcing of DoD Commercial Activities: Impacts on Civil Service Employees*, Santa Monica, CA: RAND, MR-866-OSD, 1997.

the Army's base support costs significantly, allowing it to allocate more funds to improve the facilities and properties that are retained. The Congress did not approve the Clinton Administration's request for another series of base closings, but it is still an open issue in the defense community.

MAJOR INITIATIVES: UNITED KINGDOM

This section discusses several initiatives undertaken by the MoD to improve base operations services, focusing on experiences in planning, executing, monitoring, and assessing contracts, as well as maintaining relationships with service providers. We highlight some recent contracting efforts that involve multi-installation contracts, greater involvement of the private sector in the ownership of assets, and consolidation of smaller contracts under broad-based prime contracts.

In particular, we discuss a recent contract to outsource food supply and delivery to military activities on U.K. and foreign installations, the privatization of support services at the Defence Evaluation and Research Agency, DE's efforts to consolidate construction and facilities management contracts under the Prime Contractor program and a proposed initiative on in-flight refueling services that "pushes the envelope."

Supply of Food

A 1996 NAO report⁸² describes the implementation of a contract for the supply of food to military activities. A three-year, noncompetitive contract between MoD and the Navy, Army, and Air Force Institutes (NAAFI) was initiated on October 1, 1994, including purchasing, storage, and delivery of food to units, but excluding food preparation and meal service. The supply of food contract covers delivery to 1,700 units with 100,000 military personnel at both U.K. and foreign posts.

Prior to that contract, food supply to military activities was characterized by fragmented procurement management, uncertain delivery schedules, and long lead times for order submission and processing. An Ernst and Young study reported that although its annual spending on food consumption and supply was about £95 million, the MoD had many relatively low-value contracts and was not negotiating prices and supply arrangements as a major market force.⁸³ The report also indicated that MoD's food purchasing, storage, and transport costs in Great Britain were 23 percent of the prime cost of food, whereas other private grocers with a large number of small outlets achieved a lower rate of 10–15 percent.

NAAFI had supplied some food to MoD in the past, and the implementation of its takeover of all food supply was preceded by a two-month transition period. However, the initiative was marred by major shortcomings in the supporting

⁸²National Audit Office, *Ministry of Defense: Supply of Food to the Armed Forces*, HC 66 Session 1996–97, London: The Stationery Office, November 15, 1996.

⁸³*Ibid.*, p. 7.

computer system, which caused problems in inventory monitoring, delivery management, and billing matters. Despite 70 major programming changes, the computer system could not handle the volume of transactions. Furthermore, the operators had insufficient training. The computer system did not become stabilized and fully operational until fifteen months after implementation of the contract.

Nevertheless, the initiative has also generated some improvements. The order submission and processing times from unit to depot have been reduced from two to three weeks' written notice to two days. MoD had estimated a one-time savings of £8 million reduction in stockage and annual savings in operations of £19 million, later revised to £13 million. Of the £13 million annual savings, the expectation was that £4.7 million would be saved on the cost of food during the first year of the contract. This estimate turned out to be high, as the savings actually achieved were £2.1 million. The remaining annual savings of £8.3 million were to be achieved through lower support costs. In addition to reducing high stockage costs, MoD expected that outsourcing the provision of food would allow it to avoid the cost of meeting new government regulations requiring it to refurbish storage depots and purchase new temperature-controlled vehicles.⁸⁴

Customer satisfaction with the new system was measured at the unit level using an NAO mail questionnaire. The survey obtained qualitative assessments by respondents, e.g., 61 percent stated that the quality was about as good as or better than the standard military system, and 49 percent stated that the new contract was good, very good, or excellent. The NAO questionnaire addressed multiple components of the initiative:

- Dining facility management's views of the new arrangements;
- Ordering food;
- Delivery of food, to include availability, timeliness, and accuracy;
- Quality of food and quality-assurance procedures;
- Performance incentives; and
- Bill-paying arrangements.

Based on its review, the NAO suggested some areas for improvement in the food supply contract, including better managing the transition from one supplier to another, and developing contingency plans in the event that the contractor fails to provide supplies when needed.⁸⁵ The specific recommendations were as follows:

1. The MoD must obtain relevant information from the contractor to check performance, determine entitlement to incentive payments, and help refine future contracts.
2. Specific performance characteristics of the contractor need to be checked before and during the contract, e.g., that the supplier has effective quality-assurance arrangements, that items offered will be available, that deliveries will be on time and in line with orders, and that the MoD will pay only for what is delivered.

⁸⁴Ibid., pp. 16–17.

⁸⁵Ibid., p. 4.

3. The scope of the contract must be continuously reviewed for potential savings on food and support costs while maintaining designated quality levels.
4. The MoD should benefit from retrospective discounts that the contractor receives from suppliers, and it should receive interest on amounts in dispute if settled in its favor.

Provision of Services to Defence Evaluation and Research Agency

The Defence Evaluation and Research Agency performs nonnuclear research, technology, and test and evaluation services for customers in MoD and other government agencies, and it also sells its services to commercial customers. Although DERA has been considered on many occasions as a candidate for privatization, it is currently a "trading-fund" agency.⁸⁶ In U.S. terminology, this is broadly equivalent to a "working capital funded" organization, which recovers its costs through charges to customer organizations rather than being funded with an annual budget. As a trading fund agency, DERA has already gone through massive rationalization to reduce overheads and keep down prices for its customers. In 1996, DERA decided that further economies could be achieved by privatizing the division that provided the agency's support services (DERA Support Services Division, or DSSD).

DSSD was first set up as an independent business unit within DERA and operated under commercial-like relationships with the rest of DERA to establish the new mode of operation. DSSD was then sold by open tender among financial institutions and trade buyers. The sale was managed for DERA by Deutsche Morgan Grenfell. The new private company, renamed COMAX Secure Business Services, has an expected turnover of £150 million per year. The sale brought in £30.9 million in revenue to DERA.⁸⁷ As a result of this initiative, DERA's support services are now provided at lower cost, a saving that has been passed on to customers and has also allowed DERA to hold down its prices over the last 2–3 years. Approximately 1,500 support staff transferred out of DERA into COMAX, a separate business whose core activity is the provision of services. Consequently, the proportion of DERA's current 12,000 staff devoted to research, technology, and evaluation is now significantly higher than in 1996.

One of the challenges of privatizing an internal support division was setting up a robust arm's-length contract with the newly independent organization. This separation of supplier and customer establishes a negotiation process that enables the creation of incentives and flexibility. The contract contains a

⁸⁶Under a Public-Private Partnership arrangement proposed in April 2000, approximately three-quarters of the current DERA organization will be turned into a company and floated on the stock market. The new entity would continue to be a major supplier of science and technology advice and research to the MoD, while expanding its business with other customers. The remainder of DERA will be retained within MoD to provide an in-house source of impartial advice and to integrate and manage MoD's research program and international research collaboration. See Defense Evaluation and Research Agency, "DERA and Public Private Partnership," http://www.dera.mod.uk/html/whoweare/dera_and_ppp.htm, downloaded January 5, 2001.

⁸⁷Defence Evaluation and Research Agency, "Chief Executive's Statement" and "Structural Change," *Annual Report 1996/97*, <http://www.dera.mod.uk/dera.htm>, downloaded January 12, 2000.

provision for incentive payments set as a percentage of baseline services, which are split into one guaranteed and two discretionary components. One of the discretionary components is based on hard performance measures and the other on a score derived from staff surveys at each DERA site.

DERA decided that it needed to have full visibility of COMAX's costs, and it is achieving this by using "open book accounting." This cost visibility is written into the services contract. COMAX also has an incentive to interface well with its customers, since part of its fee is based on staff surveys at each DERA site.⁸⁸ DERA is now in the process of recompeting the support services contracts originally placed with COMAX. The first of these contracts, the facilities management contract for DERA Bedford, attracted four final bidders. It was awarded to COMAX on the basis of best value for money. COMAX has proposed to introduce innovations that will yield a 75 percent reduction in the site's baseline costs.⁸⁹

Construction and Property Management

MoD's initiatives to improve the management of its entire defense base holdings have resulted in new business processes.⁹⁰ The two most prominent of these are, first, the reorganization of the administrative processes, relationships, and responsibilities between the Defence Estates and the remainder of the MoD; and second, the development of a new model for construction procurement based on "Prime Contracting."

As discussed above, DE was created in 1995 after the breakup of the Property Services Agency, which performed construction and maintenance management for all U.K. government agencies. DE was refocused in 1999 to provide central strategic management of the U.K. defense estate as a whole. As a result of the Labour Government's Strategic Defence Review in 1998, DE was given the task of changing the business processes associated with construction and property management.⁹¹

DE's new business philosophy follows the conclusions of a recent report by Sir John Egan on government construction procurement—that improved construction industry performance should be driven by the customer through effective partnering with a single prime contractor and its supply chain. DE's Prime Contractor program involves a single contracting organization that provides overall construction and maintenance services, either directly or as part of a team with other subcontractors. Under prime contracting, construction and facilities management are outsourced, but the assets being built and managed belong to the government.

⁸⁸Discussions between Defence Estates staff members and RAND (Ellen Pint, John Bondanella, and Jonathan Cave), November 1, 1999, Sutton Coldfield, U.K.

⁸⁹Defence Evaluation and Research Agency, *Annual Report and Accounts 1999/2000*, London: The Stationery Office, July 2000.

⁹⁰This section summarizes a more detailed discussion given in Appendix G.

⁹¹Discussions between Defence Estates staff members and RAND (Ellen Pint, John Bondanella, and Jonathan Cave), November 1, 1999, Sutton Coldfield, U.K.

Under the Prime Contractor program, a single contractor takes responsibility for managing all aspects of facilities projects throughout their life cycle—design, construction, operations and maintenance, and management of refurbishment, etc. Prime contracting relies on the government to be a smart customer and to ask for desired outcomes or results rather than list specifications for the desired structures. It also requires the government and the contractor to decide how risk is to be shared and to design contracts to compensate the contractor for the level of risk it assumes. These contracts are intended to be long-term—after construction is complete, the property management aspects could last for as long as three to five years.

One anticipated major benefit of the changes in construction management is that the new process will reduce the funds spent on management fees, which currently represent up to 25 percent of all property management spending. Two pilot projects to test the new management concept have demonstrated the following performance improvements:

- Up to 60 percent reduction in labor and material costs,
- Up to 100 percent improvement in productivity,
- 18–25 percent reduction in construction time, and
- 10–14 percent reduction in life-cycle costs.⁹²

As part of the new process, DE will also be seeking to reduce the number and increase the length of contracts to permit the development of effective partnering arrangements. Defence Estates hopes to reduce its current 800 contracts to somewhere between 80 and 100 in the future.⁹³

One current construction initiative—refurbishment of four Navy berthing facilities—is expected to cost £30 million and take five years to complete. Using an integrated project team—including the government customer, DE staff, Nuclear Safety Group, a prime support provider (contractor is Babbie Group), and other technical personnel—DE estimates that it has saved 7.3 percent just in the cost of letting the contract (£2.03 million for the Prime Contractor approach versus £2.19 million for traditional contracting).⁹⁴

Private Finance Initiative for In-Flight Refueling

One of MoD's most innovative proposals for private-sector involvement in operating support services is to use a Private Finance Initiative to provide in-flight refueling. The RAF is planning to modernize its aging fleet of in-flight refueling tanker aircraft (VC-10 and Tri-Star series). Rather than make an upfront investment by procuring new aircraft, the MoD would contract for in-flight refueling services, and the contractor would be responsible for supplying

⁹²Defence Estates, "Prime Contracting: Closing the Bossom Loop after 65 Years," mimeo, undated.

⁹³Discussions between Defence Estates staff members and RAND (Ellen Pint, John Bondanella, and Jonathan Cave), November 1, 1999, Sutton Coldfield, U.K.

⁹⁴Defence Estates, *Defence Estates Fourth Customer Conference*, briefing presented October 15, 1999.

the aircraft and delivering fuel to meet RAF requirements.⁹⁵ The MoD expects the life-cycle costs of this new fleet to be considerably lower than MoD's current 30-year-old fleet.

This PFI project is not without some risk to the contractor and to the RAF, and the question is how to balance the risks. The contractor needs to control its investment so it can profitably provide day-to-day service (which requires maintaining fewer aircraft and crews than the current fleet, and establishing relatively predictable fuel delivery schedules and locations) and still meet surge requirements (which will require more aircraft and crews than day-to-day service, and more intense fuel delivery schedules and locations).⁹⁶ The RAF needs to ensure that it has fuel on demand, so it must forecast day-to-day consumption accurately while providing some idea of contingency response mission requirements.

This initiative should reap a number of benefits. The contractor essentially supplies "hoses in the sky," allowing the government to avoid a capital investment in the upfront cost of replacing tankers. The government eventually pays for this capital investment with a stream of payments to the private firm that amortizes total costs over some agreed-upon period. Thus, the PFI contract must also offer better long-term value for money than the public-sector investment alternative for the project to proceed.

MoD expects the contract to result in lower operating costs and a reduced investment in surge capacity. Operating costs may be reduced by giving the contractor long-term responsibility for the performance and upkeep of the aircraft systems and ancillary equipment. Investment in surge capacity may be reduced if the contractor can provide in-flight refueling with aircraft that are "fungible"—that is, aircraft that could be used for services other than refueling. For example, they may be configured to carry cargo when they are not needed for refueling missions, provided that the contractor can develop operations management processes that meet both the RAF and the cargo business requirements. The surge capability would be built into the flexibility of scheduling and meeting other cargo demands.

The MoD assessed prequalification questionnaires for this program and invited outline proposals in mid-1999. This type of service contract is expected to work well for routine, day-to-day activity if there is a relatively good way to assess the risk associated with ramping up or surging for a contingency.

One issue that still must be addressed is how to ensure that contractor-employed crews will fly when in-flight refueling must be accomplished in a high-threat environment. Under current plans, the RAF will continue to supply pilots to fly the bulk of peacetime operations, with the contractor supplying the balance. The United Kingdom has passed legislation that would allow contractor-employed crew members to be "sponsored reserves," i.e., they would be activated as military members during a crisis. This approach is also being

⁹⁵The fuel would continue to be procured by the MoD, since it can negotiate costs with suppliers under more favorable terms.

⁹⁶The contractor might be able to provide the same or better service with fewer aircraft than the current RAF inventory, since modern aircraft may be more reliable and efficient than existing inventory.

considered for a similar initiative for private-sector provision of heavy equipment/tank transporter service—the private company will own the assets and provide the operators as part of its workforce in peacetime and retain asset ownership in wartime, but the crews will be activated into the military when the transporters must work close to the front lines.⁹⁷

MAJOR INITIATIVES: UNITED STATES

In this section we discuss the Clinton Administration's efforts to expand public-private competitions for base operating support functions under the A-76 program, consider an example of a broad base operations support contract that has been operating for approximately twenty years in the United States, and discuss the use of contractor assets and support services during deployment.

Public-Private Competitions for Base Operations

In 1995, the Clinton Administration began a new push to generate funds for equipment modernization by increasing the number of public-private competitions for base operating support functions. In May 1995, the report of the Commission on Roles and Missions (CORM) of the Armed Forces called for DoD to outsource essentially all commercial activities and to send all new requirements for commercial activities to the private sector. The CORM projected potential savings of 20 percent on activities opened to competition. In response to the CORM, the Deputy Secretary of Defense established an outsourcing and privatization integrated policy team in August 1995 to identify competitive sourcing opportunities and strategies to improve performance and reduce costs. Working groups were formed for family housing, base support operations, finance and accounting, data centers, education and training, materiel management, and depot maintenance.

The Deputy Secretary of Defense commissioned the Defense Science Board Task Force on Outsourcing and Privatization to assist with the integrated policy team effort. In its August 1996 report, the task force urged the DoD to establish a goal of \$7–12 billion in annual savings from public-private competitions by FY02.⁹⁸ The task force also recommended that each service outsource all support functions at two or more major bases.

⁹⁷During our interviews, no mention was made of how the contractor would account for any wartime damage or loss to assets — through an upfront calculation of investment that is amortized, through a catastrophic insurance policy, or through a direct government payment for loss, or whether this is just accepted by the contractor as a risk. The wartime risk most likely would not be passed to the contractor. For example, insurance for contractor personnel supporting U.S. operations overseas are covered by the U.S. Congress in the Defense Base Act in U.S. Code (1946) Title 42 Sections 1651–5 (Public Law 208, 77th Congress, as amended) with provisions applicable to the Longshore Workers Compensation Act, U.S. Code (1946) Title 33, Sections 901–49, downloaded from <http://www.rutherford.com/products/international/usaid.html>, March 14, 2000.

⁹⁸The \$7 billion goal was based on the assumptions that half of the personnel positions in the DoD commercial activities inventory would be subject to competition and that each position competed would result in 30 percent cost savings; the \$12 billion goal was based on competing two-thirds of DoD commercial activity positions and achieving 40 percent cost savings on each position competed. Both figures assumed a baseline cost of \$70,000 per position.

The 1997 Quadrennial Defense Review (QDR) recommended that the services compete, outsource, or privatize infrastructure functions closely related to commercial enterprises (primarily logistics and installation support). The QDR estimated that these initiatives could eliminate 25,000 military and 30,000 civilian positions, resulting in \$2.5–3 billion annual savings by FY04.

During 1997, the Secretary of Defense also commissioned a Task Force on Defense Reform to review the history, missions, resources, operations, and requirements of the DoD. Based on the task force's report, the Secretary launched the Defense Reform Initiative (DRI) to substantially streamline and improve DoD infrastructure and support activities. The DRI mandated four areas for change:

1. Reengineer DoD processes and procedures to work better and cost less;
2. Consolidate or streamline organizations to remove redundancy and maximize synergy;
3. Compete every activity for which the private sector may be better or helpful in improving DoD operations; and
4. Eliminate excess support structure and focus on core defense competencies.

The Deputy Secretary of Defense has issued 26 Defense Reform Initiative Directives (DRIDs). Several of these directly address Army competitive sourcing programs. DRID #9, "Privatizing Utility Systems," directed the Army to develop a plan to privatize all its utility systems (electric, water, waste water, and natural gas) except those needed for unique security reasons or where privatization is uneconomical. DRID #20, "Review of Inherently Governmental Functions," directed the Army to conduct a new inventory of its personnel positions using recently developed uniform guidelines, criteria, and reason codes to determine which functions are inherently governmental and which are commercial activities. The Army was also directed to participate in a joint review with OSD to identify which functions must be performed by government employees and which should be subject to competition.

In response to the QDR, the Army pledged to compete 56,000 positions (48,000 civilian and 8,000 military),⁹⁹ resulting in projected cumulative savings of \$1.2 billion in the FY99–FY03 Program Objective Memorandum (POM). It further committed to compete 73,000 positions (67,000 civilian and 6,000 military) with expected cumulative savings of \$3.1 billion in the FY00–FY05 POM. To meet these goals, the Army identified and formally announced to Congress that it would compete 14,176 positions in FY97, 13,851 positions in FY98, and 11,671 positions in FY99. Small competitions (100 or fewer positions) are expected to be completed within 13 months, medium studies (101–599 positions) within 18 months, and large studies (600 or more positions) within 21 months of the competition's starting date.

⁹⁹Military positions that are subjected to competition are expected to be replaced by government civilians or contractor personnel. However, the services do not plan to reduce military end strength, but to reallocate these positions to other areas with personnel shortfalls. Thus, although the costs of the competed activity may fall, total costs will not fall. See U.S. General Accounting Office, *DoD Competitive Sourcing: Some Progress, but Continuing Challenges Remain in Meeting Program Goals*, GAO/NSIAD-00-106, August 2000.

Table 4.2 shows the number of A-76 competitions announced to Congress by each of the Army's major commands in FY97–FY99. The Army has announced whole-base competitions at Fort Polk, Aberdeen Proving Ground, Tooele Army Depot, Watervliet Arsenal, Fort Sam Houston, Fort Meade, Fort Myer, Fort Belvoir, and Fort Hamilton. U.S. Army Training and Doctrine Command (TRADOC) has announced competitions of all of its installation Directorates of Logistics, Public Works, and Information Management; Training Support Centers; and Personnel Support Offices. Most of these A-76 competitions are

Table 4.2
A-76 Competitions Announced by Major Commands, FY97–FY99

Fiscal Year	Major Command	Number of Studies	Number of Positions Competed		
			Civilian	Military	Total
1997	AMC	10	2,054	35	2,089
1997	ATEC	21	553	0	553
1997	FORSCOM	15	2,295	81	2,376
1997	MEDCOM	1	0	0	0
1997	TRADOC	15	3,918	116	4,034
1997	USARC	1	105	0	105
1997	USARPAC	2	6	0	6
1997	Total	65	8,931	232	9,163
1998	AMC	18	5,102	35	5,137
1998	ATEC	1	295	0	295
1998	FORSCOM	27	5,038	675	5,713
1998	MEDCOM	2	1,187	67	1,254
1998	USARC	3	537	6	543
1998	USARPAC	6	2,252	375	2,627
1998	Total	57	14,411	1,158	15,569
1999	AMC	6	963	3	966
1999	FORSCOM	9	923	166	1,089
1999	MDW	4	1,172	179	1,351
1999	MEDCOM	5	345	9	354
1999	TRADOC	45	2,009	1,953	3,962
1999	USARC	2	345	6	351
1999	USMA	2	399	1	400
1999	Total	73	6,156	2,317	8,473
1997–1999	Total	195	29,498	3,707	33,205

SOURCE: Office of the Assistant Chief of Staff for Installation Management, "Study Announcements," downloaded from <http://www.hqda.army.mil/acsimweb/ca/studies.htm>, June 23, 2000.

being conducted by private firms under existing U.S. Army Cost and Economic Analysis Center contracts.¹⁰⁰

The U.S. Army Audit Agency (USAAA) published a review of the Army's progress in implementing A-76 cost comparisons in September 1998.¹⁰¹ It found that most of the competitions initiated in FY97 would not be completed on time. Installations and major commands estimated that it would take 50 percent longer than expected to complete the competitions (20 months for small competitions, 29 months for medium competitions, and 33 months for large competitions). Given that very few competitions were conducted between 1989 and 1996, some delays were probably unavoidable. Installations had to prepare for the new workload, including designating a commercial activity group to perform and monitor competitions, learning about the new workload and how to accomplish it, bringing contractors on board to help, and coping with workers' reactions to competitions for their own positions.

However, other delays were more process-oriented or program-oriented, and could be controlled to some extent. USAAA made the following recommendations to streamline the A-76 process:

1. Use performance work statements already developed for similar functions under study, and tailor them for unique functions or missions.
2. Examine workload data collection systems as soon as competitions are announced, or beforehand if possible.
3. Make sure installations set up detailed milestones for each competition and enter them into the tracking system set up by the Assistant Chief of Staff for Installation Management.
4. Share lessons learned between contractors and installations.
5. Study entire functions, such as directorates of public works, not subfunctions.
6. Decide how to handle unique labor sources such as prisoners, volunteers, and borrowed military personnel in the performance work statement to avoid delays.
7. Make sure that installation personnel understand and can explain and defend products accepted from contractors, such as the MEO or management study.
8. Define clearly the contractor and installation roles and responsibilities in conducting A-76 studies.

USAAA also reviewed some individual performance work statements and found that they sometimes excluded required tasks or included tasks that were not being performed by the in-house organization; workload data was often

¹⁰⁰See Office of the Assistant Chief of Staff for Installation Management, "Competitive Sourcing Strategic Plan for the U.S. Army," downloaded from <http://www.hqda.army.mil/acsinnweb/ca/stpm2.htm>, November 29, 1999; and Office of the Secretary of Defense, "Chapter 3: Streamlining Through Competition," *Defense Reform Initiative Report*, downloaded from <http://www.defenselink.mil/pubs/dodreform/chapter3.html>, March 30, 2000.

¹⁰¹See U.S. Army Audit Agency, "Observations and Lessons Learned on A-76 Cost Competition Studies," Audit Report AA 98-340, September 22, 1998.

missing, inaccurate, or incomplete; technical exhibits were missing or incomplete; and directives and forms were incorrectly cited.¹⁰²

The GAO reported on overall DoD progress in meeting A-76 cost comparison goals in August 2000.¹⁰³ It found that the DoD had not been able to conduct studies as quickly as initially expected, and the services have not been able to identify enough positions to compete in order to meet cost savings goals. In FY99, the Navy proposed to make up the shortfall in cost savings through "strategic sourcing," and the other services are now expected to follow this approach. Strategic sourcing can be applied to inherently governmental positions and involves a wide range of options other than public-private competition, including restructuring or reengineering activities, privatization, and the termination of obsolete services or programs. The GAO also reported that DoD's savings estimates are likely to be overstated, because they do not fully account for the costs of conducting studies, the separation costs associated with eliminating government civilian positions, and the services' plans to reassign military personnel rather than eliminating competed military positions.

Other critiques of the A-76 process and DoD's competitive sourcing plans include the following:¹⁰⁴

1. The private sector argues that the A-76 process is unfairly biased toward the government's bid. Industry has to provide cost figures based on projected performance by their actual companies, but the government can submit bids based on "a mythical organization" (the MEO).
2. DoD organizations cannot accurately measure overhead costs, and its accounting systems do not track depreciation or the cost of capital.
3. If contractors do not have confidence in the A-76 process, it will be difficult to attract qualified bidders.
4. In the 17-year period between FY79 and FY96, DoD reviewed 90,000 positions; it now expects to review 229,000 positions in a 6-year period, FY00–FY05.
5. Based on anticipated savings over the FY00–FY05 period, \$11 billion has already been removed from budget projections before DoD knows whether these savings can be achieved.
6. Savings projections do not consider the costs of performing A-76 competitions. DoD and the Air Force estimate the cost of studies at \$2,000 per position competed, but Army and Navy estimates are in the range of \$7,000 to \$9,000 per position.
7. Transition costs for DoD employees who lose their jobs, such as early retirement incentives or separation benefits, could range from \$20,000 to \$33,000 per employee.

¹⁰²It therefore appears that the Army is specifying detailed tasks and processes in its A-76 competitions, rather than specifying outputs and allowing contractors and MEOs more latitude to propose innovative approaches.

¹⁰³See U.S. General Accounting Office, *DoD Competitive Sourcing: Some Progress, but Continuing Challenges Remain in Meeting Program Goals*, GAO/NSIAD-00-106, August 2000.

¹⁰⁴See Jeremy Singer, "Army, Industry Officials Call for Changes in Outsourcing Regulations," *Inside the Army*, February 1, 1999; and Katherine McIntire Peters, "Defense Reform: Down to the Core," *GovExec.com*, May 1999.

Efforts to reduce base operating support costs should also consider DoD's existing contractor workforce, as well as in-house activities. An Army study, "Identifying and Estimating the Contractor Shadow Force," estimated that DoD spends 28 percent of its budget (\$71 billion) on contract manpower, in comparison with 26 percent on military manpower.¹⁰⁵

A Major Base Operations Contract: The National Training Center

In the early 1980s, the U.S. Army wanted to establish a National Training Center (NTC) large enough to accommodate field maneuver for several small units comprising a total of a few thousand soldiers. Army leaders decided that getting the center up and running would take too long if the Army followed the traditional route of conducting and managing the project itself. Instead, the Army hired a civilian contractor to establish the center on property that it owned in California. The original contractor continued to provide base operations support services well after construction was completed. The Army's annual contract fee for the NTC is approximately \$60 million.

From the time the NTC was established at Fort Irwin, California, until about 5 years ago, base operations support was contracted out under a large umbrella contract. This contract covered a variety of functions, including traditional base operations (utilities, housing, roads, etc.), maintenance of a large prepositioned fleet of training vehicles, and other logistics functions to support visiting maneuver brigades (supply and services, central receiving point, clothing issue facility, etc.). This umbrella contract was divided into two separate contracts for a number of reasons, including a perception that the contract was growing out of control, a perception that some installation-level tasks were constantly deferred to support training tasks, and a recognition that functional organizations on post were unable to track their spending within the existing contract instrument.¹⁰⁶

When the NTC was formed it had very little infrastructure. As the NTC mission grew, so did the size and frequency of training events. Concomitant with that growth was the need for a larger fleet of training vehicles, new facilities—family housing, roads, utilities—and increased demands for maintenance. External audit agencies focused on the increased contracting costs and speculated that the contract was growing out of control because there was essentially no competition. In reality, however, the scope of work had changed drastically since inception, driven mostly by the expanded training mission on an installation with meager infrastructure. For example, the prepositioned training vehicle fleet expanded by more than 100 percent, and on-post housing increased several times over. The scope of work under contract was also modified to include air traffic control functions in addition to flight-following functions specified in the initial contract.¹⁰⁷

¹⁰⁵Cited in Peters, *op. cit.*

¹⁰⁶Based on visits to the NTC during the 1990s and telephone discussions with NTC staff, March 2000.

¹⁰⁷The remainder of this section is based on telephone discussions with NTC staff, March 2000.

The various functional organizations on post—which constituted the contractor's customer base—were dissatisfied because they could not determine how their funds were being spent. There were literally hundreds of different accounts for about a dozen primary customers. The contractor's accounting system did not organize spending the same way as the government. Further, to maintain maximum flexibility in meeting the contract, the contractor implemented procedures that were not standard to government organizations, e.g., it cross-utilized personnel on different tasks and co-located several functions to conserve personnel and increase service. As a result, customers were not sure how their funds were being used, nor could they determine how increasing or decreasing funding would affect other functional areas and costs. Consequently, each functional government customer wanted its own contract, but this was not practical because attracting qualified contractors and achieving economies of scale required the implementation of a relatively large contract.

NTC installation staff analyzed the situation and conducted some market research. They determined that the perceived problems with the umbrella contract stemmed primarily from the uncertainty and surges associated with training (maintenance of the prepositioned vehicle fleet and supply and services for the visiting training units). They decided to divide the umbrella contract into two separate contracts: one for these more turbulent logistics functions and the other for the remainder of installation services (e.g., real property maintenance, such as family housing maintenance, roads, and utilities; community services, including morale, welfare, and recreation activities; airfield operation and maintenance; training aid support; and administrative support, such as telephone and printing operations). The logistics functions contract is valued at approximately \$35 million annually and the installation support functions contract at approximately \$25 million. The two contractors employ somewhat over 1,000 personnel, combined.

Dividing the contracts may have been somewhat more expensive initially, since it required separate project management staffs. However, as the contracts mature, efficiencies and innovations are expected to offset the increased management costs. Under both contracts, the government owns the assets and the contractor provides labor and management. The perception is that both contracts are now operating more effectively. The customers for the installation support contract seem very satisfied with its performance. The logistics contract has improved customer satisfaction somewhat, but some problems remain. Most of these stem from a lack of accurate workload data, but this too is improving.

Unless the Army can generate active competition for contract renewals, it may become difficult to evaluate the reasonableness of growth in contract costs. Tracking cost changes due to normal inflation and to revisions in the scope of work is relatively easy. In the early years of contracting, the government had in-house installation data to compare with contractor costs, but in recent years, government databases only track the costs charged by the contractors. As time goes by, these contractor costs become the "established baseline." One fear is that there may be no "true competition," since competing contractors can find out what the current contract costs are and then bid close to them, even though there may be opportunities to reduce costs.

During the contract period, any modifications in the scope of work are based on sole-source negotiations with the current contractors. However, the NTC is using an "Alpha Contracting" philosophy to negotiate these work scope modifications. Modifications are made in a "teaming" approach: the government and the contractor meet to discuss government needs and resource constraints, and the parties discuss innovative ways to meet the requirements within these constraints rather than trying to lay out detailed specifications for tasks. The government has access to contractor cost data, since the contracts are based on cost reimbursement, and the contractor has relatively open access to the government resource constraints for these modifications. The NTC is gradually moving toward a more outcome-oriented method of contracting; however, current contracts are still based primarily on detailed specifications. The logistics contract does specify some tasks based on outcomes, e.g., keep vehicles at "X percent" of operational availability, but other tasks are based on more detailed specifications, e.g., maintain vehicles in accordance with established preventive maintenance schedules.¹⁰⁸

Operations During Deployment

In contrast to the United Kingdom, the U.S. military has not considered privatizing the routine provision of services as vital to the primary combat support mission as in-flight refueling. The DoD has a Civil Reserve Aircraft Fleet (CRAF) program under which U.S. airlines contractually commit to provide aircraft during emergencies. In return for this contractual obligation, DoD awards peacetime airlift contracts to CRAF participants.¹⁰⁹ The largest contract is for international airlift services, with a guaranteed portion in FY99 totaling \$345 million. Additionally, DoD estimated awards of more than \$362 million above the guaranteed total in FY99. CRAF participants agree to a set of rules concerning minimum fleet commitment levels, U.S. registration, and crew availability (e.g., four crews for each aircraft for international requirements).

Aircraft are committed to functional segments and stages of activation. Segments include long-range and short-range international (passenger and cargo), national cargo, Alaskan cargo, and aeromedical evacuation. Aircraft can be activated in stages tailored to the size of the contingency. Stage I is intended for minor regional crises, Stage II for major regional contingencies, and Stage III for periods of national mobilization. In 1998, 35 carriers and 657 aircraft were pledged to CRAF, 494 of which were in the long-range international section. When fully mobilized, CRAF can provide up to a third of DoD's cargo airlift capacity and 93 percent of strategic airlift passenger capacity.¹¹⁰

U.S. Transportation Command, with approval of the Secretary of Defense, has the authority to activate CRAF. Carriers must have aircraft ready for a CRAF

¹⁰⁸See the NTC Web site, <http://www.irwin.army.mil/doc>, solicitations section, for information on contract performance standards.

¹⁰⁹U.S. Air Force Web site, www.af.mil/news/factsheets/Civil_Reserve_Air_Fleet.html, downloaded February 12, 2000. Data current as of May 1999.

¹¹⁰See Secretary of the Air Force, Legislative Liaison, *1998 Air Force Congressional Issue Papers*, downloaded from <http://www.af.mil>, February 6, 2001.

mission within 24 to 48 hours after notification. The government controls the missions, but the air carriers own, operate, and maintain the aircraft with their own resources. DoD inspects and monitors the safety and suitability of the carriers' fleets.

CRAF was created in 1952 in response to delays in establishing contracts with airlines at the start of the Korean War.¹¹¹ Although CRAF aircraft have been used on a voluntary basis to fly supplies and soldiers during the Vietnam War and, more recently, Operation Restore Hope (Somalia) and Operation Shining Hope (Kosovo), CRAF has been formally activated only once, for the Persian Gulf War (Operations Desert Shield and Desert Storm). Stage I long-range international passenger and cargo aircraft were activated in August 1990, and Stage II long-range international cargo aircraft were activated in January 1991. CRAF aircraft flew over 5,000 military missions, carrying more than 60 percent of the troops and 25 percent of the cargo airlifted in or out of the theater.¹¹²

The activation of CRAF raised issues regarding the integration of commercial aircraft into military missions, and the incentives of airlines to participate in CRAF. Because civil aircraft radios operate on frequencies that are not accessible by military communications equipment, civil aircraft would arrive at military installations without advance notification to crews handling servicing, loading, and unloading, and civil aircraft had difficulty assessing the potential hazards at their destination in the theater. Other difficulties included issuing protective equipment for chemical warfare to civil crews, obtaining government insurance coverage, and establishing procedures for landing at hazardous airfields.

Although small charter and cargo carriers welcomed the CRAF business and volunteered more aircraft than they were required to provide during the Gulf War, the large cargo and passenger carriers were more reluctant participants, with the exceptions of Pan Am and TWA, which were experiencing declining demand in international markets and financial difficulties. Several airlines lobbied to forestall a Stage III activation. Thus, if the DoD wants to continue to rely on CRAF as a cost-effective alternative to holding more reserve capacity in military airlift, it may need to restructure the financial incentives for airlines to participate in the program.¹¹³

The U.S. Army and Air Force also use private-sector contractors to support base operations for contingency missions. These contracts, termed "LOGCAP" in the Army, normally do not provide service for in-garrison operation, nor does the contractor provide significant capital assets. Rather, the contracts are activated as needed. The contractor provides a core of management expertise and acquires most of the necessary labor force in the area of the contingency or

¹¹¹Commercial aircraft had been used on an ordinary contractual basis during World War II and the Berlin airlift crisis. See Mary Chenoweth, *The Civil Reserve Air Fleet and Operation Desert Shield/Desert Storm: Issues for the Future*, Santa Monica, CA: RAND, MR-298-AF, 1993.

¹¹²See Air Force News, "Commercial Air Fleet Key to Total Force," downloaded from http://www.af.mil/news/Apr1999/n19990428_990806.html, February 12, 2000; and Chenoweth, op. cit.

¹¹³See Jean R. Gebman, Lois J. Batchelder, and Katherine M. Poehlmann, *Finding the Right Mix of Military and Civil Airlift, Issues and Implications: Volume 2, Analysis*, Santa Monica, CA: RAND, MR-406/2-AF, 1994.

from third-country populations. In some cases, the contractor does provide in-garrison services, but under a different contracting mechanism.

Additionally, the U.S. Army Europe contracted with the Brown and Root Services Company (B&R), a subsidiary of Halliburton Company, to provide support for Operation Joint Endeavor, but not under the provisions of the Army's LOGCAP program. This contract involved both base camp construction and base operations support in Bosnia and base operations support in Hungary. B&R has been providing logistics services in those areas since 1995. The contract renewal in 1999 was written to provide sustainment support "to the Balkans" (Albania, Bosnia, Hungary, Croatia, and the Former Yugoslavian Republic of Macedonia). Virtually all base operations support and construction supporting the U.S. portion of the Kosovo Peacekeeping Force (KFOR) in Kosovo and Macedonia are provided under this contract, with minimal U.S. forces involved other than to manage the service level and monitor its quality.¹¹⁴

Services provided by B&R include building temporary housing, erecting tents, coordinating food services, repairing roads on installations, managing waste, generating power, and providing transportation services.¹¹⁵ B&R provides managers for support operations from within its own staff but employs primarily local and third-country nationals. For example, in 1999 the B&R operations for KFOR rear in Macedonia (centered at Camp Able Sentry) comprised slightly over 100 B&R permanent staff and approximately 800 locally hired employees.

The DoD has contracted with private firms to provide ships and crews that are used to "preposition afloat" sets of military equipment and supplies in areas of potential conflict. This contract is for day-to-day service and requires little risk assumption by the U.S. contractor.

LESSONS LEARNED

In addition to the overarching lessons learned from MoD outsourcing and privatization discussed in the U.K. overview section, several important issues emerge from the MoD's and the U.S. Army's experiences with military base operations services.

1. Contractor performance must be monitored and tied to incentive payments.

A consistent theme in outsourcing support services, from the early experience with market testing through the most recent contracts and PFI projects, is the need to monitor the contractor's performance and to tie

¹¹⁴Observations of John Bondanella, RAND, during visits to Operation Joint Endeavor/Intervention Force units in Hungary and Bosnia in May-June 1996 and Kosovo peacekeeping force units in Yugoslavia-Macedonia in November 1999; and discussions with Brown & Root staff in Yugoslavia-Macedonia in November 1999.

¹¹⁵"Halliburton's Brown & Root Services Provides Logistics Services to Support U.S. Forces in Albania," press release dated April 21, 1999, http://www.halliburton.com/news/brsc_news/pr_bs_042199.htm, downloaded March 16, 2000.

performance metrics to incentive payments. The NAO's 1992 report on market testing found that performance monitoring was often insufficient to support action against contractors whose performance was below standard. More recent contracts, such as the DERA support contract with COMAX, explicitly incorporate performance metrics, including customer satisfaction, into incentive payment mechanisms. An inability to monitor contract costs and performance led to a restructuring of the NTC's base operations contract.

2. Follow-up programs are needed to ensure that contracting achieves anticipated cost savings or quality improvement.

Although contract costs are compared with actual or hypothetical public-sector costs to perform the same services at the time a contracting decision is made, there is frequently little follow-up to determine whether expected savings or quality improvements from contracting are achieved. For example, if the scope of work or desired contract outputs are poorly defined, contract modifications that result in higher costs may be required. It may also be difficult to quantify the benefits of improved service or the costs of deteriorated service.

3. Incumbent contractors must be subject to competition or other incentives to improve performance.

After an in-house activity has been contracted out, the option to bring it back in house is typically no longer available when the contract is recompeted. In addition, the incumbent contractor may be much better informed about the work to be done than any potential competitors. In other cases, there may be sole-source negotiations, as in the case of the food supply and DERA support services contracts, or work scope modifications to the NTC contract. Therefore, it is important either to maintain competition to provide the service or to create incentives for the incumbent contractor to improve performance over time.

4. Appropriate flexibility of funds should be preserved.

When a support activity is put on contract, the customer is committed to set aside a portion of its budget to pay contract costs. This may be an advantage, if it commits funds to pay support or maintenance costs that are sometimes neglected or underfunded, leading to reduced performance or higher costs in the future. But it may also limit the customer's flexibility to divert funding to higher-priority areas, such as unexpected deployments.

5. The military customer must ensure that the contractor has the capability to perform desired services.

An important part of the source-selection process is to ensure that contractors have the capability, capacity, and financial resources to carry out the contract. This turned out to be a problem in the case of the food supply contract, under which NAAFI found it difficult to scale up its operations in the short term, even

though it had previously provided food supply services on a smaller scale. Contractor capability may also be an important consideration on the in-flight refueling contract, since potential commercial bidders are unlikely to have had direct experience providing this service.

6. The military customer must consider how operations will transition from garrison to deployment.

If contractors are used to provide base operations services in garrison but not on deployment, or vice versa, there could be difficulties in the transition from garrison to deployment, particularly if different providers use different processes or procedures. Use of contractors in garrison and service personnel on deployment could limit the rotation base for service members. On the other hand, use of contractors to provide surge capacity on deployment could increase flexibility.

5. Logistics

This chapter discusses the use of outsourcing and privatization in the provision of logistics support in the United Kingdom, with comparisons to the U.S. Army. We begin by providing background information on military logistics in the United Kingdom and United States. We then describe major outsourcing and privatization initiatives, as well as changes in management structures intended to improve internal incentives for cost-effective use of logistics resources, in both countries. We conclude with lessons learned based on the British and American experiences.

BACKGROUND: UNITED KINGDOM

As part of the British government's Strategic Defence Review, published in 1998, a decision was made to combine the three-star logistics commands of the three services (Chief of Fleet Support, Quartermaster General, and Air Member for Logistics) into a joint Defence Logistics Organisation, led by a four-star Chief of Defence Logistics to emphasize its importance in the new MoD structure. The purpose of creating a joint logistics organization is to improve support of joint operations and to rationalize functions and processes on a defense-wide basis.¹¹⁶ The consolidation of logistics functions is expected to release funding to help pay for the modernization of the U.K. armed forces.

On April 1, 1999, the Chief of Defence Logistics took command and budgetary responsibility for the three service logistics organizations that, during a transition year, continued to manage their day-to-day businesses. DLO Headquarters provided overall direction and led a significant change program. During the transition year, new management structures were put in place to create a fully unified joint command by April 1, 2000.¹¹⁷ The new logistics structure will be described in greater detail below.

Table 5.1 shows some indicators of the size of the three logistics commands that are being combined into the DLO. The new organization is responsible for 12 Defence Agencies, including the joint Defence Storage and Distribution Agency, Defence Transport and Movements Agency, and Defence Clothing and Textile Agency. Some consolidation of logistics activities had already taken place before the creation of the DLO. For example, since 1990, £4.4 billion of inventories has been sent for disposal, the number of items managed has been reduced from 3 million to 2 million, and the number of supply depots has been reduced from 81 to 50.¹¹⁸

¹¹⁶See Ministry of Defence, Directorate of Defence Policy, *The Strategic Defence Review*, July 1998, pp. 45–50.

¹¹⁷See Defence Logistics Organisation, "The Defence Logistics Organisation," Keynsham, U.K.: MoD, undated.

¹¹⁸Ministry of Defence, Directorate of Defence Policy, "Supporting Essay Eleven: Support and Infrastructure," *The Strategic Defence Review: Supporting Essays*, p. 11-4.

Table 5.1
MoD Logistics Inventories, Personnel, and Budgets in 1998–1999

	Naval Service	Army	Royal Air Force	Total
Value of stock at year end (£ million)	4,179	5,909	4,483	14,571
Value of issue transactions (£ million)	2,621	2,065	3,777	8,463
Value of receipt transactions (£ million)	2,622	2,009	2,219	6,850
Item types in inventory at year end (millions)	0.6	0.5	1.0	2.1
Number of issue transactions (millions)	1.0	2.3	0.9	4.2
Number of receipt transactions (millions)	0.3	0.3	0.4	1.0
Civilian personnel at year end (thousands)	12.1	9.4	9.3	30.8
Military personnel at year end (thousands)	3.4	1.5	4.4	9.3
Budget (£ million)	2,057.6	1,000.6	1,616.5	4,674.7

SOURCES: Ministry of Defence, *UK Defence Statistics 1999*, Tables 2.2, 2.3, and 3.10; Ministry of Defence, *UK Defence Statistics 1998*, Table 1.4.

Unlike the United States, the United Kingdom does not use working capital funds (or trading funds) to finance major logistics activities. The DLO currently receives a directly appropriated budget rather than being supported by customer funds. However, there are plans to convert the two remaining depot-level repair agencies, the Army Base Repair Organisation and the Defence Aviation Repair Agency, into Trading Fund status. The Navy's depot-level repair facilities, the Royal Dockyards, were privatized in 1997.

BACKGROUND: UNITED STATES

U.S. Army Materiel Command (AMC) manages the wholesale supply and depot-level maintenance of Army-unique repairable and consumable spare parts. Nonunique consumable items are managed for all three services by the Defense Logistics Agency (DLA), which also operates supply depots for the services. Nonmilitary items, such as office supplies, equipment, and furniture, are managed by the General Services Administration (GSA). Table 5.2 shows indicators of the size of AMC and DLA supply management operations for comparison with MoD figures in Table 5.1.¹¹⁹

Installation Directorates of Logistics (DoLs) also have a significant role in General Support (GS), or intermediate-level, repair. They operate Repairable Exchange (RX) repair programs for field-level repairables (FLRs) and perform GS-level repair tasks on depot-level repairables (DLRs), as well as providing

¹¹⁹As of November 2000, the exchange rate was approximately U.S. \$1.43 to U.K. £1.00.

Table 5.2
DoD Logistics Inventories, Personnel, and Operating Costs in FY99

	AMC	DLA
Value of stock at year end (\$ million)	8,837 ^a	9,256
Value of issue transactions (\$ million)	3,348	6,961
Value of receipt transactions (\$ million)	2,241 ^b	6,463
Item types in inventory at year end (millions)	0.1	4
Number of issue transactions (millions)	1.1	20
Number of receipt transactions (millions)	0.4	N/A
Civilian personnel at year end	21,415 ^c	10,549
Military personnel at year end	90 ^c	360
Operating costs (\$ million)	675	1,288
Operating cost surcharge (% of cost of goods sold)	25.3	20.4

^aAdjusted for serviceability and potential disposal.

^bIncludes procurement and customer returns.

^cIncludes all AWCF personnel in Supply Management, Depot Maintenance, Ordnance, and Information Services.

SOURCES: U.S. Army, Assistant Secretary of the Army for Financial Management and Comptroller, *The Army Budget: FY00/01 President's Budget*, February 1999; U.S. Army, Army Working Capital Fund, *FY2000/2001 Biennial Budget Estimates*, undated; U.S. Army, Army Working Capital Fund, Supply Management Army, *FY99 Reapportionment Request, FY00-01 Budget Estimate*, September 1998; and Department of Defense, Defense-Wide Working Capital Fund, Defense Logistics Agency, Supply Management Activity Group, *FY2000/2001 Biennial Budget*, February 1999.

backup for Direct Support (DS) maintenance units. DoLs are primarily staffed by government civilians, although some are contractor-operated. As of the end of FY99, installation DoLs held approximately \$1,026 million in inventory to support RX programs and nondivisional units on their installations.¹²⁰

The Army has made use of working capital funds (or trading funds, in the MoD terminology) for many years to create financial incentives for customer organizations to make efficient use of logistics resources and for supplier organizations to identify and reduce support costs. Working capital funds were created on a DoD-wide basis by the National Security Act Amendments of 1949. They can be classified as industrial funds or stock funds. Industrial funds finance the operating costs of industrial and commercial-type manufacturing and service activities, such as maintenance depots. Stock funds finance and hold inventories of parts, subsistence, fuel, and other supplies for sale to military units. Under working capital funding, assets are capitalized into the funds, and operating costs are recovered through customer reimbursement rather than direct appropriation of funds. Although surpluses or deficits may develop in the funds from year to year, they are budgeted to break even over each two-year budget cycle.

¹²⁰See U.S. Army, Army Working Capital Fund, Supply Management Army, *FY99 Reapportionment Request, FY00-01 Budget Estimate*, September 1998, p. 1.

Depot-level reparables were excluded from the Army's stock fund until 1992, when Defense Management Review Decision No. 904 (DMRD 904) required the services to procure and repair all DLRs through their stock funds. As a result, customers of the Army stock fund began paying for DLRs, which were previously financed through procurement appropriations and issued free to customers based on their stated need. Customers also began receiving credits for DLRs returned to the stock fund.¹²¹ We discuss the impacts of stock funding of DLRs in greater detail below.

Figure 5.1 shows a simplified version of the relationships between the Army's stock funds and depot maintenance industrial fund, collectively known as the Army Working Capital Fund (AWCF), and the budgeted financial flows between them in FY99.¹²² Working-capital-funded entities are shown as squares; shaded squares are part of the AWCF. Starting on the left side of the figure, note that operating units receive funds for spare parts as part of their operations and maintenance (O&M) budgets. In FY99, operating units were budgeted to purchase \$5.7 billion in spare parts and other supplies, and to receive \$2.0 billion in credits for returned items. O&M budgets also include the costs of training, base operating support, and civilian personnel, so if units are able to reduce spending on spare parts, they can use this O&M savings to pay for other activities. Thus, operating units have a strong financial incentive to seek the lowest-cost sources of supply and repair.

The Retail Stock Fund (RSF) and the Wholesale Stock Fund (WSF) comprise the Supply Management, Army (SMA) activity group. Logistics financial transactions between customers and wholesale sources of supply pass through the RSF, which has a branch office on each installation.¹²³ Approximately \$3.3 billion in purchases and \$1.1 billion in credits were budgeted for Army-managed items financed by the WSF. Another \$1.3 billion in purchases were budgeted for items managed by DLA or GSA, or common parts managed by the Navy or Air Force. The remainder of budgeted purchases and credits from the RSF are primarily for RX items, which are repaired on the installation and so do not involve transactions with wholesale sources of supply.

AMC's Major Subordinate Commands (MSC), such as TACOM (Tank-Automotive and Armaments Command) and CECOM (Communications-Electronics Command), manage the Army's wholesale inventories. Wholesale supply managers determine when to repair or procure to replenish wholesale inventories. Prior to stock funding of DLRs, the MSCs received appropriated funds to cover the costs of procurement and repair, as well as operating costs.

¹²¹See Department of Defense, Office of the Under Secretary of Defense (Comptroller), *A Plan to Improve the Management and Performance of the Department of Defense Working Capital Funds*, September 1997.

¹²²Sources for Figure 5.1 are U.S. Army, Army Working Capital Fund, Supply Management Army, FY99 Reapportionment Request, FY00-01 Budget Estimate, September 1998; and U.S. Army, Defense Business Operations Fund, Depot Maintenance, Other, FY1998/1999 Budget Estimate, September 1996.

¹²³Until recently, each of the Army's major commands, such as U.S. Army Forces Command (FORSCOM) and U.S. Army Training and Doctrine Command (TRADOC), managed its own component of the RSF. However, in FY01 the Army is merging its wholesale and retail stock funds into a single stock fund, which will be managed by AMC.

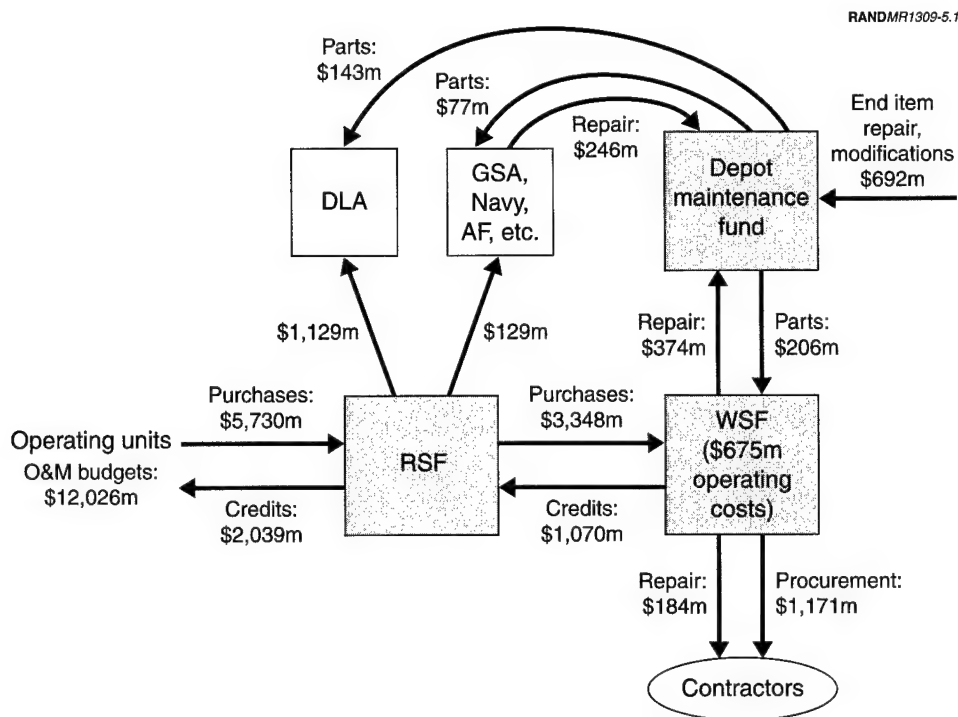


Figure 5.1—Budgeted Flow of Funds in FY99

Under stock funding, the MSCs must use WSF sales revenues, net of credits issued, to pay for procurement, repair, and operating costs. Prices are set based on the acquisition cost of the item, plus a surcharge to cover operating costs (set at 25.3 percent of acquisition cost in FY99); credits for unserviceable items are set based on acquisition cost minus repair cost.

In FY99, the WSF was budgeted to spend approximately \$1.2 billion on procurement of spare parts and \$560 million on repair. Wholesale supply managers have two main options for buying repairs. They can purchase repairs from the Army's maintenance depots or from commercial vendors, subject to constraints on the capability and/or capacity of these sources, and to congressional constraints on the amount of workload that can be outsourced.¹²⁴ Wholesale supply managers have a financial incentive to choose the lowest-cost source of repair within these constraints, assuming that the quality and responsiveness of the repair sources are comparable. In FY99, approximately two-thirds of component repairs were expected to be performed in house, one-third by contractors.

¹²⁴For many years, repairs were subject to the "60/40 rule," under which Congress required at least 60 percent of repairs to be performed in organic maintenance depots. The proportion was recently changed to 50/50, but the types of activities included in the count were also changed, so in practice, the new constraint is very similar to the old one. Depot maintenance workload over \$3 million must also be subject to a public-private competition before being outsourced.

Organic depot-level repairs are financed by the Depot Maintenance activity group. The prices charged by the depots are set to cover the costs of labor, materials, and overhead. In addition to the \$370 million in component repair revenue expected from the WSF, the Depot Maintenance activity group was budgeted to perform \$250 million in component repair for other working capital funds, primarily those of the Navy and Air Force, and \$690 million in end-item overhauls and modifications financed by O&M, procurement, and other Army-appropriated funds. It was also budgeted to buy approximately \$430 million in parts and equipment from other working capital funds to perform these repairs and modifications.

AWCF financial managers are responsible for maintaining the overall solvency of the fund, which also includes smaller activity groups for Ordnance and Information Services. Prices and credits for each activity group are set during the budgeting process so that its fund should break even during the budget year. If an activity group has a financial gain or loss during the execution year, it must adjust its future prices and credits to recover losses or return gains to customers. AWCF financial managers must also maintain a cash balance in the fund to cover 7–10 days of operating expenses (\$1.5 to \$2.1 billion) and 4–6 months of capital disbursements (\$.5 to .9 billion).¹²⁵

MAJOR INITIATIVES: UNITED KINGDOM

In this section we discuss some of the major recent initiatives in MoD logistics. First, we describe the reorganization of the individual services' logistics commands into a joint Defence Logistics Organisation. Second, we discuss the privatization of the Royal Dockyards, the depot-level maintenance providers for the Royal Navy. Third, we describe some of the Private Finance Initiative projects currently being conducted in logistics and related areas.

Creation of the Defence Logistics Organisation

As discussed above, the Labour Government decided to form a joint logistics command, the Defence Logistics Organisation, as part of its Strategic Defence Review, completed in 1998. The DLO is headed by the Chief of Defence Logistics, a four-star uniformed post, which is on a par with the chiefs of staff of the army, navy, and air force, reflecting the increased importance placed on management of the supply chain. During a transition year (April 1, 1999 to March 31, 2000), the CDL took overall control of the individual services' logistics organizations and reconfigured them into a single, integrated organization as of April 1, 2000.

Prior to April 1999, the individual services' logistics commands were each one of three or four top-level budget holders (along with operational and personnel commands, plus an additional Army command for Northern Ireland)

¹²⁵Financial Management Regulation, Vol. 11B, p. 54-16.

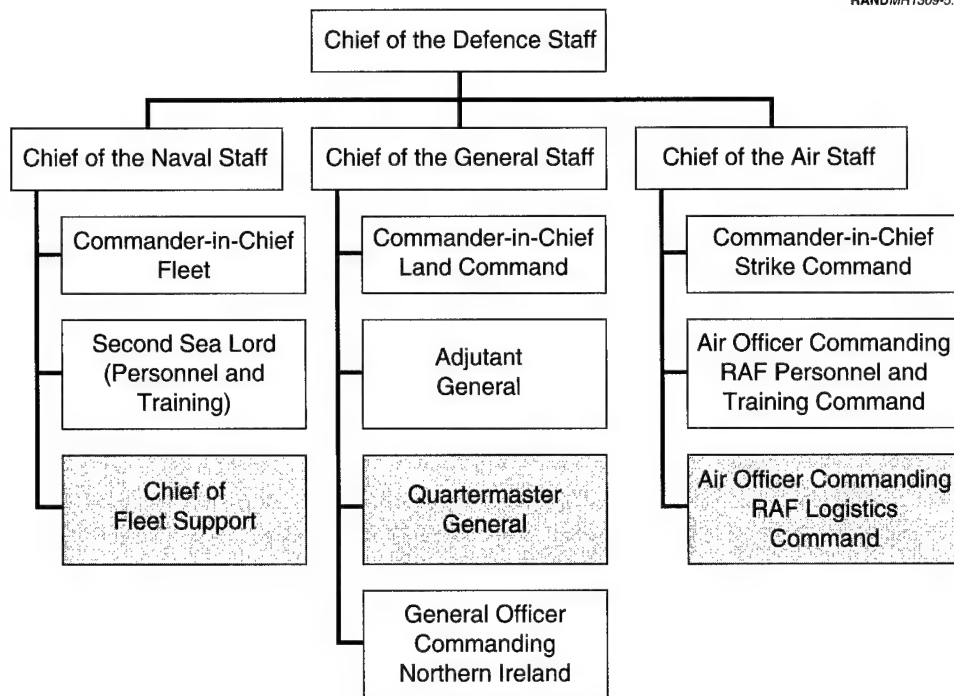


Figure 5.2—Pre-DLO Logistics Commands

in each service. Figure 5.2 shows the logistics commands in shaded boxes.¹²⁶ As of April 1999, the CDL took command of the three logistics organizations and became accountable to the Chief of the Defence Staff for the delivery of joint logistics support and to the Permanent Under-Secretary of State for the organizational efficiency and value for money of the DLO. As of April 1, 2000, the three service logistics commands were formally disestablished, allowing the new DLO structure to run the unified command.

The creation of the DLO is closely linked to other defense reforms initiated by the Strategic Defence Review, including Smart Procurement and Resource Accounting and Budgeting. One of the aims of Smart Procurement is to place greater emphasis on reducing life-cycle costs, beginning with the procurement phase. A new MoD Centre customer, the Deputy Chief of Defence Staff (Equipment Capability), has responsibility for setting the requirement for the delivery of capability, rather than specific types of equipment, and for the oversight of the effectiveness and the affordability of that capability through its life cycle. In addition, Integrated Product Teams have been formed to manage weapon systems throughout the procurement and support phases. Typically, an IPT will form in the Defence Procurement Agency during the procurement phase. When the weapon system is introduced into service, the IPT will transfer

¹²⁶See Ministry of Defence, "Annex C: Structure and Organisation of the MoD," *The Ministry of Defence Investment Strategy*, downloaded from the MoD Web page, <http://www.mod.uk/policy/investment/annexc.htm>, November 30, 1999.

from the DPA to the DLO, with its core personnel, contract management, lines of funding, and knowledge base intact.¹²⁷

Under Resource Accounting and Budgeting, MoD is shifting from input accounting (based on cash) to output costing (based on both cash and capital resources). Service suppliers (such as DLO) will receive their own budgets, but they must identify their customers, customers must define exactly what outputs they want from their suppliers, suppliers must calculate the costs of delivering those outputs, and customers and suppliers must jointly agree on what is affordable and deliverable. Customer Supplier Agreements are formalized to ensure that all parties know what they are “contracted” to do and how to prioritize needs when resources are inadequate or requirements change, and to create a basis for monitoring performance.

In keeping with these procurement and budgeting reforms, DLO will be composed of “decider” and “provider” business units. (See Figure 5.3.¹²⁸) The “decider” business units, the Directors General Equipment Support (DG ES) for Maritime, Land, and Air, are shown in the lower left of Figure 5.3. Personnel in these units will initially be grouped into 50 to 60 IPTs reflecting existing weapon systems, but more IPTs are likely to form as Smart Procurement is applied to new areas of business and programs migrate from the DPA to the DLO when a new weapon system enters service. For example, the Director General Equipment Support (Air) will have 22 IPTs, grouped into fixed-wing platforms, rotary-wing platforms, and commodities. Its four principal customers will be the Commodore Naval Aviation (under Commander-in-Chief Fleet), the Joint Helicopter Command (under Land Command), RAF Strike Command, and RAF Personnel and Training Command.

The decider business units will negotiate the outputs required of the DLO with their customers. Negotiations will be held at the IPT level, and the results will be incorporated into Customer Supplier Agreements at the DG ES level. These agreements will define the range of spares, repairs, maintenance, modifications, technical and safety information, and support services required. The costs and affordability of the agreements will be assessed at the IPT, DG ES, and DLO levels as part of the negotiation of resources that the DLO requires from the MoD. The DLO will be responsible for meeting its customers’ legitimate demands within the resources available. When resources are insufficient, customers will be able to prioritize their needs.

Integrated Project Team leaders are intended to have greater freedom than in the past to select the best options for delivering weapon system capabilities. However, DLO is currently designing a framework to try to ensure that managers who optimize the support strategy for an individual system do not suboptimize the logistics system as a whole, which must provide an array of

¹²⁷To facilitate the transfer of IPTs from the DPA to the DLO, all civilian and military personnel involved with acquisition activities and equipment support will form a single Acquisition Stream, or career field, and be encouraged to gain experience in all acquisition phases. See Defence Logistics Organisation, “The Defence Logistics Organisation,” Keynsham, U.K.: MoD, undated.

¹²⁸See Defence Logistics Organisation, “The Defence Logistics Organisation,” op. cit.; and Defence Logistics Organisation, “Your Transition into the DLO Equipment Support (Air) Business Unit Explained,” brochure, November 2, 1999.

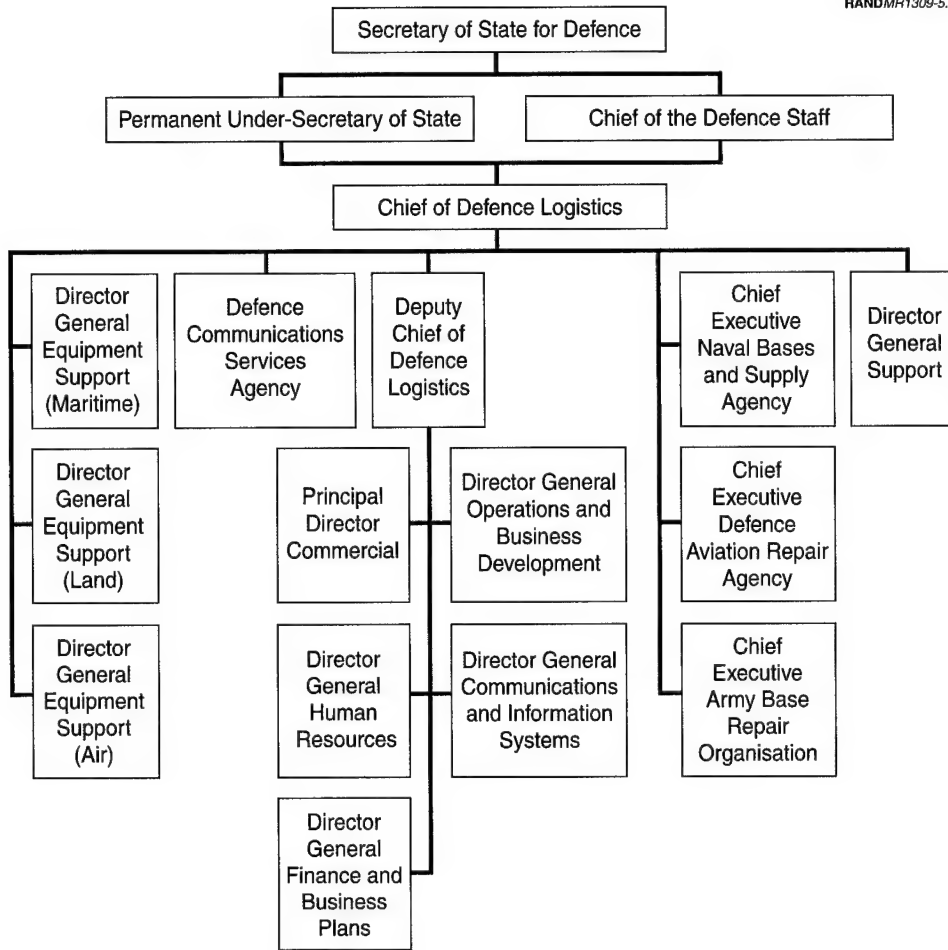


Figure 5.3—New Defence Logistics Organisation Command Structure

weapon systems to front-line commanders and other customers. As part of Smart Procurement, industry representatives will be incorporated into the IPTs (except when contracts are being competed) to improve understanding and the flow of ideas between the MoD and industry.

The “provider” business units—the Chief Executives of the Naval Bases and Supply Agency (NBSA), the Defence Aviation and Repair Agency (DARA), and the Army Base Repair Organisation (ABRO), and the Director General Support—are shown in the lower right of Figure 5.3. The three repair and support units have agency status and are headed by chief executives. Since depot-level maintenance for the Royal Navy has been privatized, the NBSA performs only base-level maintenance, but it also operates the naval bases supporting the fleet, including the supply chain, personnel services (e.g., barracks accommodation, medical, sports, and pay), base port facilities (e.g., berths, mooring, tugs, cranes, shore power, etc.), and personnel for deployed support. Some of NBSA’s

activities are being restructured into joint, defense-wide activities under the Director General Support.

DARA and ABRO perform both base-level and depot-level maintenance, and they are expected to become trading fund (i.e., working capital fund) agencies in the near future. The Director General Support is responsible for the physical supply chain (storage, transportation, distribution, etc.). This includes the joint Defence Supply and Distribution Agency, the Defence Transport and Movement Agency, the Defence Clothing and Textiles Agency, Defence Munitions, the Defence Fuels Group, and the Defence Catering Group.

The Defence Communications Services Agency joined the DLO as of April 1, 2000. It is currently being restructured, including the formation of IPTs where appropriate. The role of the Deputy Chief of Defence Logistics (DCDL) is to manage the DLO's headquarters and budget, and to run the DLO's change program. The DCDL is supported by five senior directors. The Principal Director Commercial manages contracting and industry matters and provides functional leadership and policy direction to commercial staff assigned to IPTs and other business units. The Director General Human Resources manages personnel policy. The Director General Finance and Business Plans oversees financial management. The Director General Operations and Business Development is accountable to the Chief of Defence Logistics for operational logistics, and to the DCDL for the DLO's business development program, including initiatives to rationalize and improve the efficiency of the support chain and for the introduction of life-cycle costing policy. The Director General Communications and Information Systems (CIS) manages logistics CIS personnel from the previous service logistics organizations and is responsible for rationalizing and modernizing logistics information systems.

The new DLO is expected to be better able to meet the requirements of joint and force projection operations, and to promote cost savings and business practice improvements on a joint basis.

Privatization of the Royal Dockyards

In October 1993, the MoD announced its decision to privatize the Royal Dockyards at Devonport and Rosyth.¹²⁹ The Royal Navy spends approximately £400 million per year on its refit and repair program, of which 42 percent is submarine work and 36 percent is surface ship refitting; the remainder involves Royal Fleet Auxiliaries and other vessels. Since 1987, the dockyards had been managed by Devonport Management Limited and Babcock Rosyth Defence Limited as Government Owned Contractor Operated facilities. Under the GOCO arrangements, the MoD allocated most of its refit and repair workload to the dockyards without competition: 66 percent by volume and 76 percent by value over the three fiscal years from 1994–1995 to 1996–1997. The remainder of the workload was let competitively between the dockyards and private shipyards.

¹²⁹This section summarizes a more detailed description of the Royal Dockyards privatization given in Appendix H. It is primarily based on National Audit Office, Report by the Comptroller and Auditor General, *Ministry of Defence: Sales of the Royal Dockyards*, HC 748 Session 1997–98, June 3, 1998.

Although the MoD wanted to increase the proportion of competed workload, it was concerned that it would pay for underutilized dockyard capacity through higher overhead rates if the dockyards' capacity were not fully utilized. One of the purposes of the privatization was therefore to promote competition for surface ship refitting, in addition to generating cost savings on future refitting work, transferring liabilities to the new owners, and maintaining the Royal Navy's capability to refit nuclear submarines.

With the help of external advisers from Coopers & Lybrand, the MoD tried to stimulate interest in the privatization through advertising and direct contacts with potential bidders. Although 12 Stage I Invitations to Tender were issued for Devonport and 11 for Rosyth, only the incumbent contractors submitted bids, each for the dockyard they were already operating. The MoD and some of the potential bidders cited the following four factors that favored the incumbents:

1. A perceived advantage held by the two companies already managing the dockyards;
2. Potential bidders' unfamiliarity with warship and submarine refitting, and the scale of potential layoffs and environmental liabilities;
3. Concerns over the stability of the refit program, and the MoD's long-term goal of ending allocated work at Rosyth; and
4. Potential bidders had other priorities, including consolidation and mergers in the defense industry following the end of the Cold War.

After Stage I bids were submitted in October 1994, each company was asked to submit a Stage II bid in March 1995 and a Stage III bid in August 1995. The MoD had hoped to conclude the privatization in 1995, but because of the lack of competition, a period of protracted negotiations ensued with each of the companies, during which the GOCO contracts were extended. The negotiations involved complex tradeoffs between the sale price of the dockyards, the future costs of refit work, and the costs of assuming liability for layoffs, due to very generous severance pay agreements with the workforce as former government employees.¹³⁰ For example, a higher sale price creates a higher base from which to depreciate the dockyard's assets, leading to higher future refit costs; and requiring the new owners to assume more of the liability for layoffs would reduce the sale price or increase refit costs. The MoD also had to prepare an estimate of the costs of continued GOCO operations for comparison with the expected value associated with the privatization of each dockyard, due to the lack of competition.

The Rosyth sale was completed in January 1997, and the Devonport sale was completed in March 1997. The gross sale price for Rosyth was £27.0 million, but MoD deducted £6.5 million in exchange for Babcock Rosyth's agreement to accept all severance liabilities from 2006 onward, and it allowed the company to defer payment of £6 million, so the MoD received a cash value of £19.4 million for Rosyth dockyard. The asset base for depreciation purposes was set at the full £27 million.

¹³⁰Under the GOCO contracts signed in 1987, the dockyard employees were transferred from the MoD to the dockyard companies, but they retained their Civil Service severance entitlements (National Audit Office, 1998, p. 40).

The sale price for Devonport was set at £40.3 million, after deducting £3 million in exchange for Devonport Management's agreement to accept liability for layoffs on commercial work and MoD's competed workload. However, the asset base for depreciation purposes was set at £73 million, approximately £33 million (or 83 percent) more than the agreed sale price. The revaluation also had the effect of increasing the company's allowed profit rate under the Government Profit Formula from 5.65 percent to 8.3 percent. The MoD accepted this arrangement because Devonport Management argued that the cash flows that would have been generated from a lower fixed asset value were not sufficient to fund anticipated capital expenditures.

The sale agreements specified hourly rates for refit work for an initial contract period. At Devonport, the MoD should have cumulative savings of 9 percent over the first five years, with a savings-sharing arrangement if savings are higher. A new contract for hourly rates will be negotiated at the end of the five-year period. At Rosyth, target hourly rates were set for a 10-year period, with a cumulative reduction of 40 percent. If Babcock Rosyth is unable to achieve these targets, the MoD can withdraw some of its allocated workload. The sale contracts also included profit "clawback" provisions. If the owners sell any assets for nonindustrial use, the MoD will be entitled to a share of any enhanced value. The MoD is also entitled to a proportion of any profit made by the dockyard owners if they sell shares in the dockyards within three years.

Although the negotiated sale prices were less than independent evaluations of the dockyards' assets and potential for revenue generation from MoD (see Table 5.3), the MoD estimated potential savings of £40 million (3 percent) at Devonport and £118 million (10 percent) at Rosyth over a 10-year period, relative to continued GOCO operation. The National Audit Office conducted a sensitivity analysis on these assumptions, and found that the total savings ranged from £56 million to £178 million, net of the £15.7 million cost of conducting the sales. Savings on each individual dockyard also remained positive in each scenario.

Following a review of the National Audit Office's report on the sales, the Public Accounts Committee expressed concern about the lack of competition, the low sale prices relative to the valuations, the revaluation of the Devonport assets

Table 5.3
Valuations of the Dockyards

Evaluator	Year	Basis	Devonport	Rosyth
Fuller Peiser	1996	Value of fixed assets	£97 million	£50 million
Coopers & Lybrand	1994	Revenue generation from MoD refit program	£90.8 million	£30.3 million
Dockyard companies	1997	Negotiated sale price	£40.3 million	£19.4 million

SOURCE: National Audit Office, *Sales of the Royal Dockyards*, HC 748 Session 1997–98, June 1998, p. 24.

to increase depreciation and profits, and the delay in increasing competition for surface ship workload.¹³¹

Private Finance Initiatives in Logistics

As one of the two largest buyers of assets and services in the MoD (along with the Defence Procurement Agency), the Defence Logistics Organisation, along with its constituent commands (the Chief of Fleet Support (CFS), Quartermaster General (QMG), and RAF Logistics Command (LC)), has been involved with several Private Finance Initiative and Public-Private Partnership projects. It is also considering how to expand the use of PFI and PPP projects to provide better value for money to its customers.¹³² Resource Accounting and Budgeting creates an additional incentive to use PFI (under which contractors own the assets used to provide a service), since PFI projects reduce DLO's asset register and the associated liabilities for interest and depreciation charges.

Table 5.4 provides information on logistics PFI projects that have been completed through September 2000. Three of the six projects (Germany White Fleet, MHE Fleet, and RAF White Fleet) were pilot projects for the use of the PFI to obtain noncombat vehicles. The "white fleet" refers to noncombat support

Table 5.4
Completed PFI Projects in Logistics

Name	Fiscal Year	Description	Top-Level Budget Holder	Estimated Public-Sector Capital Cost
Germany White Fleet	95-96	Provision of support vehicles in Germany	Land	£52 million
LISA	96-97	Provision of information systems for QMG	QMG	30 million
MHE Fleet	96-97	Provision of materiel-handling equipment in the U.K.	QMG	8 million
RAF White Fleet	96-97	Provision of support vehicles for RAF	LC	35 million
RAF Mail	98-99	Informal messaging services for RAF	LC	12 million
Tri-Service Materials Handling Service	00-01	Tri-service project for provision of remaining MHE fleet	DLO	39-50 million

SOURCE: Ministry of Defence, "Ministry of Defence: PFI Projects," MoD Web page, <http://www.mod.uk/commercial/pfi/database.htm>, downloaded October 16, 2000.

¹³¹See Committee of Public Accounts, Eighth Report, *Ministry of Defence: Sales of the Royal Dockyards*, House of Commons Session 1998-99, March 15, 1999.

¹³²DLO can also use Gainsharing (an outgrowth of Smart Procurement) to promote process improvements on existing contracts. Under Gainsharing, the benefits of process improvements that result in lower costs are shared between MoD and the contractor.

vehicles, including cars, buses, trucks, and materiel-handling equipment such as forklift trucks. Traditionally, these noncombat vehicles were bought by the MoD, maintained by MoD or contractor personnel, and sold by the MoD at the end of their working lives. Under the RAF White Fleet PFI project, the contractor bought the RAF's fleet of nearly 2,800 vehicles and has a 5-year contract to manage the fleet, including full maintenance, accident repair, and subsequent replacement of the vehicles, and the MoD pays a monthly service charge per vehicle.¹³³

MoD logistics organizations currently have a number of additional PFI and PPP projects in various stages of procurement. (See Table 5.5.) PFI and PPP projects can occur at a number of different levels, including:

1. **Platform availability.** The MoD tells the contractor what ships, aircraft, or vehicles are needed when, and the contractor arranges the best way to meet that schedule, including the number of assets needed. An example is a PFI project to provide Archer Class training ships.
2. **Contractor logistics support.** The contractor provides everything except front-line maintenance at the platform, system, or equipment level. For example, the Astute Class submarine will have contractor logistics support (CLS) at the platform level until the first major refit.¹³⁴
3. **Batching refits or overhauls.** When a series of aircraft, ships, or vehicles is going through similar overhauls or modifications, a target cost incentive fee contract (under which the contractor and MoD share cost savings 50/50 below the target) can be used to encourage lower costs and/or faster schedules as the contractor learns from experience.
4. **Output/performance specification.** MoD gives the contractor a required output or performance specification for a new or repaired part instead of detailed repair or manufacturing specifications.

Thus, PFI and PPP can sometimes blur the line between procurement of assets, logistics services, and training services. For example, procurement PFI projects being managed by the DPA, such as Future Cargo Vehicles (4-tonne and 8-tonne trucks), Future Command and Liaison Vehicles, Future Strategic Tanker Aircraft, and Heavy Equipment Transporters, usually include contractor-provided logistics and contractor-employed operators.¹³⁵ Training PFI projects managed by training commands, such as RAF Basic Flying Training and helicopter training services, can include contractor-provided assets and logistics, and contractor-employed trainers.

¹³³See National Audit Office, Report by the Comptroller and Auditor General, *Ministry of Defence: The Procurement of Non-Combat Vehicles for the Royal Air Force*, HC 738 Session 1998–99, August 19, 1999.

¹³⁴The Astute CLS contract is unusual in that the contractor will be employing MoD base-level maintenance and support facilities at the naval base on the Clyde River as a subcontractor. This arrangement avoids underutilization of MoD facilities that could affect the total costs of supporting other weapon systems.

¹³⁵PFI projects, under which the contractor owns the assets used to provide services, almost always include logistics support in order to achieve clear and effective risk allocation.

Table 5.5
Logistics PFI/PPP Projects in Procurement

Name	Description	Top-Level Budget Holder	Estimated Public-Sector Capital Cost	Date Advertised
Archer Class Support	Support of Archer Class training ships	CFS	Not known	Aug. 1998
Central Britain White Fleet	Provision of tri-service support vehicles	Land/DLO	£60 million	July 1997
DSDA* Marketing Partner	Marketing surplus capacity and facilities	QMG	N/A	Apr. 1999
Electronic Commerce Services	Secure electronic communication between MoD and contractors	DLO	Not known	
Expeditionary Camp Infrastructure	Provision of deployable infrastructure	DLO	£45 million	
Inmarsat	Replacement terminals and airtime contract for Royal Navy ships	CFS	£6 million	Oct. 1998
London District White Fleet	Provision of Army support vehicles in London	DLO	£12 million	Aug. 1997
Marchwood Military Port	Management and possible commercial use of facilities	QMG	Not known	Dec. 1998
Northern Calibration Facility	PPP for use of facility in Faslane	CFS	Not known	June 1998
Scotland White Fleet	Provision of tri-service support vehicles in Scotland	Land	£35 million	July 1997
South West White Fleet	Provision of Royal Navy support vehicles	CFS	Not known	Mar. 1998
Southern Britain White Fleet	Provision of tri-service support vehicles	Land	£50 million	Nov. 1997
Tri-Service Airfield Support	Provision of airfield support services	LC/DLO	£350 million	Apr. 1998

*Defence Storage and Distribution Agency.

SOURCE: Ministry of Defence, "Ministry of Defence: PFI Projects," MoD Web page, <http://www.mod.uk/commercial/pfi/database.htm>, downloaded October 16, 2000.

The logistics commands, DLO, and MoD in general have learned from early experiences with PFI contracts, as well as previous experience with Market Testing and Competing for Quality. For example, based on experience with the white fleet pilot projects, the white fleet and materiel-handling equipment projects in procurement are being modified. Follow-up discussions with bidders indicated that the RAF White Fleet project was too limited in scope to permit them to offer economies of scale. The newer PFI projects are generally not restricted to one service but cover vehicles used by all three services in a region. Based on industry consultation, the projects are split on regional lines in order to strike a balance between projects that are too small to allow economies of scale and projects that are unmanageably large. The specifications being issued to bidders do more to encourage innovation by stating output requirements (transportation services required by MoD) rather than inputs (number of vehicles to be provided), and payment mechanisms are being designed to give contractors incentives to minimize the number of vehicles needed.

MAJOR INITIATIVES: UNITED STATES

The U.S. Army outsources approximately one-third of its depot-level component repair, and it has some contractor-operated Directorates of Logistics on its installations. The Clinton Administration emphasized outsourcing as a potential source of savings in DoD support costs, and it programmed aggressive savings targets into the services' budgets. However, the Army faces several different types of congressional constraints on its ability to outsource or privatize logistics services. At the installation level, outsourcing activities employing more than 11 government civilians requires a public-private competition. At the depot level, outsourcing repair workload valued at \$3 million or more also requires a public-private competition, and the Army may not outsource more than 50 percent of its depot workload.¹³⁶

For these reasons, major initiatives in Army logistics have tended to focus on internal reform rather than outsourcing and privatization. Below we discuss two of these initiatives, stock funding of depot-level reparable and Velocity Management. We then describe the fate of some innovative proposals for greater contractor involvement in logistics support for the M109 self-propelled howitzer and the Apache helicopter.

Stock Funding of Depot-Level Reparables

The Army implemented stock funding of DLRs in 1992, in response to a management directive from the DoD. On a DoD-wide basis, stock funding of

¹³⁶The allocation of depot maintenance workload is governed by 10 U.S.C. 2466. It states that not more than 50 percent of the funds made available in a fiscal year to a military department or defense agency for depot-level maintenance and repair can be used by the private sector. The law permits the secretary of a military department to waive the 50 percent ceiling for a fiscal year if the secretary determines it is necessary for national security reasons and notifies Congress of the reasons for the waiver. Another provision, 10 U.S.C. 2460, defines what work is considered to be depot-level maintenance. See U.S. General Accounting Office, "Depot Maintenance: Air Force Faces Challenges in Managing to 50-50 Ceiling," GAO/T-NSIAD-00-112, March 2000.

DLRs resulted in a reduction of about 20 percent in demand for DLRs, a savings of approximately \$500 million per year. In the Army, units and installations were given a financial incentive to diagnose and repair as many items as possible at the Direct Support and General Support levels. They also had a new financial incentive to return unserviceable DLRs in exchange for new components, as well as items no longer needed in local inventories. Army return rates have increased from approximately 80 percent of annual sales to over 100 percent for some items (i.e., customers were reducing local inventories of these items).

From the logistics providers' perspective, working capital funding has resulted in significant reductions in costs and civilian personnel. From FY93 to FY99, the logistics infrastructure costs of all Defense Working Capital Fund (DWCF) activities (including the Navy and Air Force Working Capital Funds, the Defense Logistics Agency, the Defense Finance and Accounting Service, and other defense agencies) fell from \$53.6 billion to \$44.2 billion, a 30 percent reduction after accounting for inflation. Civilian personnel in DWCF activities fell from 290,000 to 184,000 over the same period, a 36 percent reduction. Supply management personnel have been reduced by 39 percent and depot maintenance personnel have been reduced by 43 percent.¹³⁷

Evidence of declining demands for reparables since 1992 can be seen in the Army's Operating and Support Management Information System, which contains cost data on all the Army's major weapon systems. Analysis of these data for the Apache and Blackhawk helicopters, the M1 tank, and the Bradley Fighting Vehicle shows that since 1992, operating units' purchases of DLRs from the wholesale logistics system have declined both on a per-system basis (Figure 5.4) and on a per-flying-hour or vehicle-mile basis (Figure 5.5).

In Figure 5.4, the left axis shows purchase costs of DLRs per helicopter (Apache or Blackhawk). Note that in 1992, DLR purchases per Apache were approximately \$751,000; by 1998, DLR purchases were down to \$472,000. The Blackhawk did not see as dramatic a decline in purchases per system, but the cost of Blackhawk DLRs per helicopter is also considerably less than for the Apache. In 1998, purchases of Blackhawk DLRs were just over \$200,000. Tracked vehicles in general require less expensive DLRs; thus, their cost per system should be less, as Figure 5.4 confirms. The right axis in Figure 5.4 shows DLR purchases per tracked vehicle (here, the M1 and Bradley). From 1992 to 1998, DLR purchases for the M1 tank declined from \$82,000 to \$35,000; those for the Bradley declined from \$38,000 to \$13,000.

These trends for both helicopters and tracked vehicles are confirmed by Figure 5.5. The left axis in the figure shows purchases of DLRs per flying hour for the Apache and Blackhawk helicopters. In 1992, purchases of Apache DLRs were over \$5,000 per flying hour; by 1998, they had declined to \$2,900. Over the same period, Blackhawk DLR purchases per flying hour declined from \$2,200 to \$1,200. Similarly, the right axis in Figure 5.5 shows DLR purchases per vehicle mile for the M1 tank and the Bradley Fighting Vehicle. Purchases of DLRs for the M1 tank declined from \$135 per vehicle mile to \$93; for the Bradley, they declined from \$45 to \$29 over the same six years.

¹³⁷Department of Defense, *A Plan to Improve the Management and Performance of the Department of Defense Working Capital Funds*, op. cit., pp. 18-19.

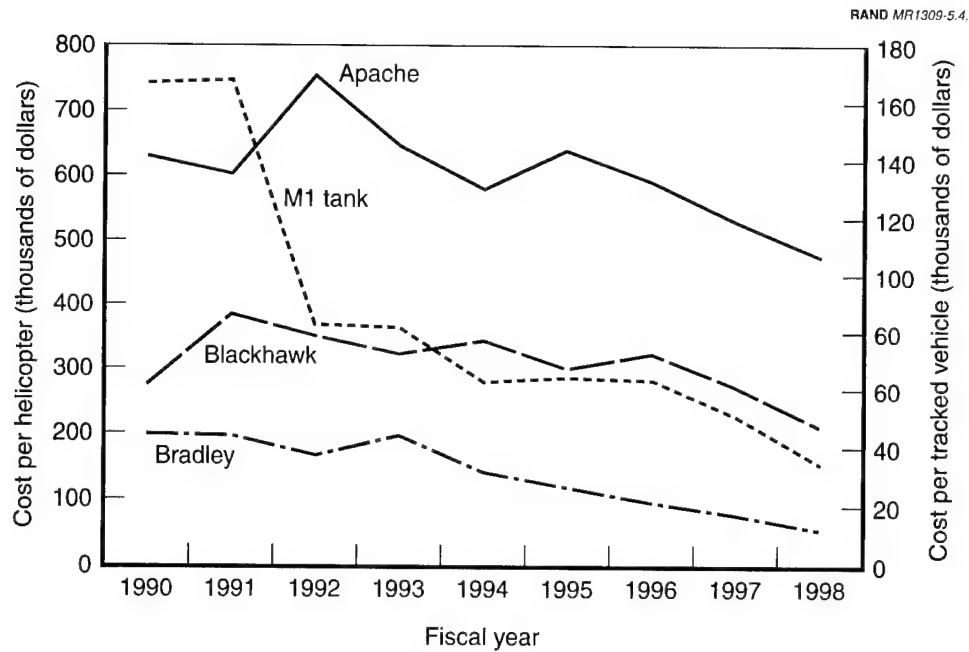


Figure 5.4—Customer Purchases of DLRs per System

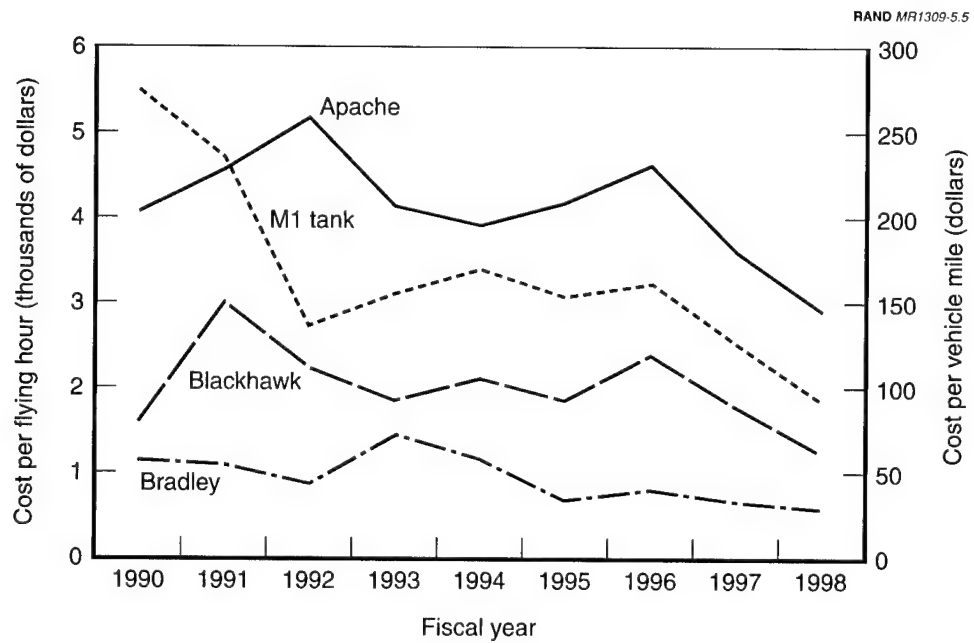


Figure 5.5—Customer Purchases of DLRs per Flying Hour/Vehicle Mile

The purpose of working capital funding is to create financial incentives to reduce support costs, while maintaining readiness. Logistics customers have responded by reducing demands for DLRs, increasing return rates relative to demands, and seeking alternative sources of supply and repair. Although these activities reduce operations and maintenance expenditures by logistics customers, it is not clear that they reduce costs from an Army-wide perspective, because prices and credits do not always correspond with actual repair and replacement costs.

For example, until FY01, credits for unserviceable items were averaged over broad categories of items, so customers had an incentive to repair items with below-average repair costs and send back items with above-average repair costs. Customers have also set up redistribution systems for serviceable items that receive low credit relative to their purchase price. These activities reduce the number of transactions that flow through the working capital fund. Working-capital-funded activities depend on a sufficient volume of transactions to recover their overhead costs, so when customers take actions that reduce the number of transactions, the funds may not recover all their costs. Therefore, the Army is changing its price and credit policies in FY01 (as part of other financial system changes) to reduce customer financial incentives to set up alternative repair and redistribution systems.

Velocity Management

Since the end of the Cold War, the military threats facing the U.S. Army have become more unpredictable in both location and requirements, and many of its units have been relocated to the continental United States. The massive stockpiles of equipment and materiel accumulated during the Cold War and the Army's complicated supply chains were not only slow to deploy, they were costly as well. The supply process performed unreliably, creating lengthy and variable delays. As the Army reduced its massive inventories in response to declining defense budgets, process problems that were previously hidden by large buffer stocks became apparent.¹³⁸

To create a supply chain that was more effective, less costly, and more easily adaptable in the face of unpredictable requirements, the Army implemented the Velocity Management (VM) initiative in 1995. VM adapts to the military many of the technological and managerial innovations that have proved successful in commercial logistics. It considers the Army's logistics system as a set of processes that deliver products and services to customers. This process orientation requires the Army to overcome functional and organizational boundaries both internally (between supply, repair, and transportation functions) and externally (between the Army, DLA, GSA, and commercial suppliers).

¹³⁸This description of Velocity Management is based primarily on Dumond et al., *Velocity Management: The Business Paradigm That Has Transformed U.S. Army Logistics*, Santa Monica, CA: RAND, MR-1108-A, 2001; and *Speeding the Flow: How the Army Cut Order-and-Ship Time*, Santa Monica, CA: RAND, RB-3006, 1998.

To develop and implement VM, the Army established cross-functional teams that focused on improving specific logistics processes, such as order and shipment, repair, stockage determination, and financial management. These improvement teams employ a “Define-Measure-Improve” (DMI) methodology to create a common understanding of each process and identify areas for change. In the first step, “define,” the team produces a detailed mapping of every step in the process it is trying to improve. Next, the team must develop ways to “measure” the time, quality, and cost of the process using available Army data. Measurement is critical both to assess current process performance and to test the effectiveness of proposed changes to the process. In the final stage of DMI, “improve,” the team combines its understanding of the process with its diagnosis of the sources of performance problems identified by its metrics to arrive at recommended process improvements.

The first focus of VM was the order and shipment process for spare parts ordered by customers on Army installations. Figure 5.6 shows the distribution of order-and-ship time (OST) for items that were available in wholesale inventories and sent to active-duty units based in the continental United States for the baseline year of July 1994–June 1995. The average OST during that period was just over 26 days, but there was a high degree of variability in the process. The bar at the bottom of the figure shows the median, mean, 75th percentile, and 95th percentile of the OST distribution, which the Army uses as top-level metrics for OST.

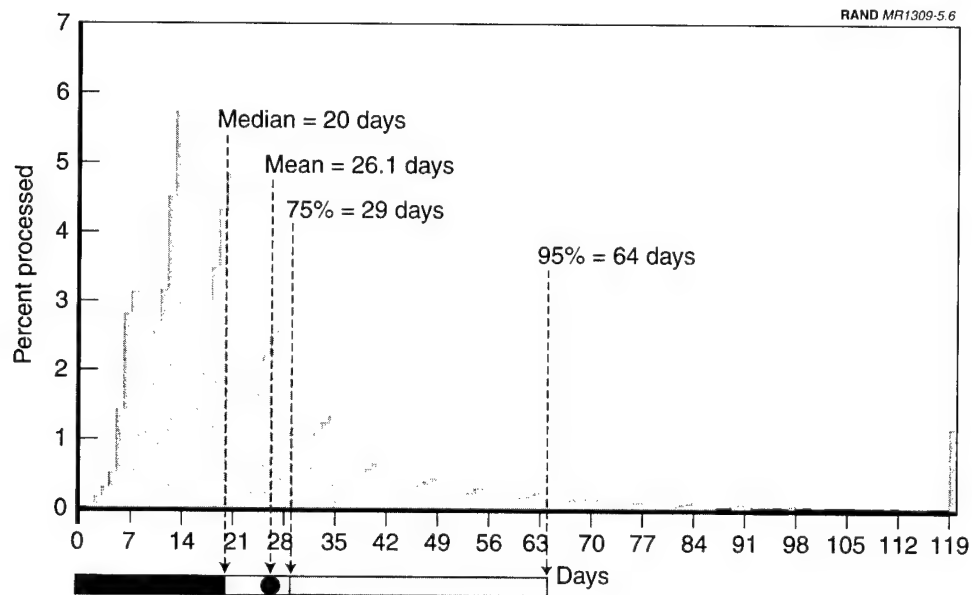


Figure 5.6—Baseline Distribution of Order-and-Ship Time

Figure 5.7 shows these OST metrics for Fort Bragg, a major Army installation located in North Carolina, from the baseline period through the end of 1999.¹³⁹ As the figure indicates, the VM initiative has been successful in reducing both the mean and the variability of OST. Most other U.S. active-duty installations show similar improvements. Process changes were implemented by personnel on Army installations, by the Defense Logistics Agency (which manages all DoD supply depots), and by commercial shippers. Army installations strengthened oversight, simplified the approval process, improved the use of new requisitioning and receipting technologies, and streamlined on-post delivery. DLA has improved workflows through its supply depots, sped up the processing of materiel release orders, packaged and directed shipments to reduce intermediate handling on installations, and worked with commercial shippers to provide regularly scheduled deliveries.

Improved OST also improves the Army's repair and stockage determination processes. The repair process benefits because less time is lost awaiting parts to complete a repair. Installations have been able to rebalance their local inventories to reduce depth and increase breadth, so more parts are now available locally, further speeding repairs. The OST improvement team's future work focuses on active duty units outside the continental United States, the National Guard and Army Reserve, and Direct Vendor Delivery from contractors, which now lags behind OST for DoD wholesale inventories. The VM initiative is also applying the DMI methodology to the repair, stockage determination, and logistics financial management processes. For each of these processes, the goal of improvement teams is to identify and eliminate sources of delays, errors, and waste to create a logistics system that is faster, better, and cheaper.

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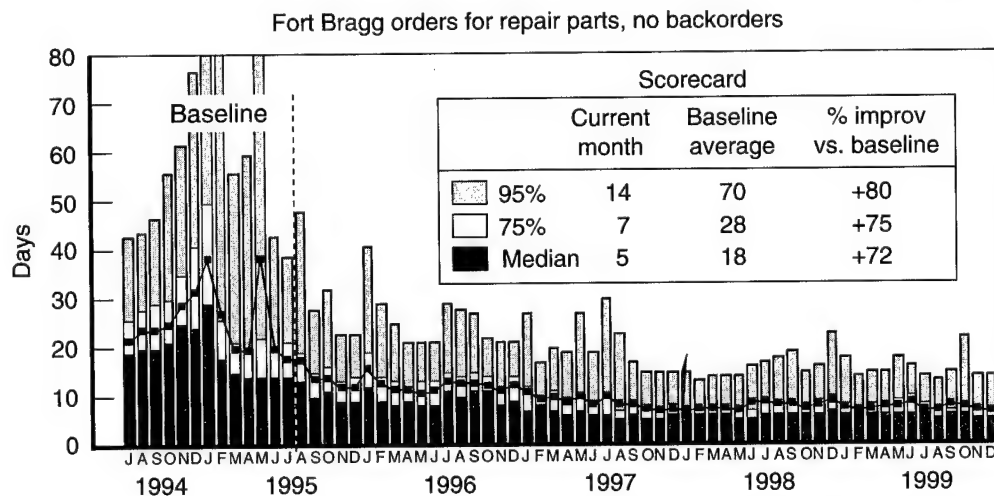


Figure 5.7—Improvement in Order-and-Ship Time at Fort Bragg

¹³⁹The horizontal bar shown in Figure 5.6 has been converted to vertical bars in Figure 5.7. Thus, the height of the dark gray portion of the bars in Figure 5.7 shows the median OST, the height of the white portion shows the 75th percentile, and the height of the light gray portion shows the 95th percentile. The series of connected squares indicates the mean OST.

Fleet Management and Prime Vendor Support

From 1997 to 2000, the Army considered two proposals for greater private-sector involvement in weapon system support, the Fleet Management program for the M109 self-propelled howitzer and the Prime Vendor Support program for the Apache helicopter. However, both of these proposals have faltered for various reasons, including congressional opposition, financial issues concerning decapitalization of working capital fund inventories, and the scope for cost savings and contractor profitability.

The M109 Fleet Management proposal was initiated by the Army to unify the management of the M109 fleet and its spare parts. At the time of the proposal, the potential savings were estimated at \$245 million over 10 years, representing a 20 percent savings in startup costs and a 30 percent savings in life-cycle support costs. The Army had an inventory of \$80–90 million in spares and \$400 million in end items, but turnover was only approximately \$20 million per year. Thus, there appeared to be scope to increase the parts inventory turnover rate and reduce inventory investment. The contractor was also expected to identify parts with chronic reliability problems and reduce repair costs by replacing them with improved versions, a process called “modernization through spares.”¹⁴⁰

The Army originally expected to issue a Request for Proposals (RFP) in fall 1997, but the program was delayed by internal reviews and congressional opposition to privatizing work done by government supply managers and maintenance depots. The Army was required to request a waiver from public-private competition regulations and to prepare a government cost estimate in order to award the workload directly to a contractor. Meanwhile, the Army issued an “information exchange paper” in June 1998 to seek comments from industry, end users, and other government entities. Staff members of the “House Depot Caucus,” a group of legislators with Army depots and arsenals located in their districts, expressed concern that the Army could not document cost savings from the program.¹⁴¹

To satisfy congressional and other concerns, the Army modified its draft Fleet Management RFP to exempt all maintenance from the contract, and to require the contractor to use Army maintenance depots for all parts coded for depot repair. The contractor was also required to buy out all M109-unique parts from the Army and the Defense Logistics Agency, although it could use the Army or DLA as a source of supply for inventory common to other weapon systems. In addition, the contractor was required to use the Army’s management information systems for order submission, tracking, and payment, and to submit a Small and Small Disadvantaged Business Subcontracting Plan. The draft RFP was issued in October 1998, and in February 1999, the leading contender for the

¹⁴⁰“Pilot Program to Centralize Maintenance of Entire M109 Howitzer Fleet,” *Inside the Army*, October 21, 1996.

¹⁴¹George Cahlink, “Army Plans Call for Outsourcing M109 Fleet Management by Next July,” *Inside the Army*, September 22, 1997; George Cahlink, “Army to Notify Congress of Plans to Outsource M109 Fleet Management,” *Inside the Army*, January 19, 1998; Jeremy Singer, “Army Pushes Ahead with M109 Family of Vehicles Fleet Manager Project,” *Inside the Army*, July 13, 1998; and Jeremy Singer, “Army Seeking Hill Support on A-76 Waiver for M109 Fleet Management,” *Inside the Army*, October 5, 1998.

contract (United Defense LP, the manufacturer of the M109) announced that it was dropping out of the competition because of the length of the process and the limited scope for innovation. The Army decided to cancel the program in April 1999, although it issued a "summary paper" on the program to seek further comments from industry in August 1999.¹⁴²

The Apache helicopter Prime Vendor Support (PVS) proposal was initiated in April 1997 by Team Apache Systems, a joint venture between Lockheed Martin, McDonnell Douglas Helicopter Systems (since taken over by Boeing), and General Electric. Under the PVS proposal, the contractor would be responsible for all spares and repairs, and the Army would pay based on the number of hours it flies. Apache parts would be taken out of the working capital fund system, and operating units would no longer pay for them or receive credits for returns. PVS was originally expected to result in cost savings of \$1.9 billion over 20 years.¹⁴³

PVS faced many of the same concerns as M109 Fleet Management. The House Depot Caucus was concerned about losses of government civilian jobs in maintenance and supply management, and it was opposed to a waiver of public-private competition. In addition, the PVS program was possibly large enough to violate the restriction on outsourcing more than 40 percent (now 50 percent) of each service's depot maintenance workload, and the Army was required to justify a sole-source contract. Army financial managers objected that the Army Working Capital Fund would lose a major source of surcharge revenue (used to cover overhead costs) if its Apache business base was taken away. The Defense Logistics Agency objected to being a "preferred supplier" rather than a required supplier of Apache consumable parts. U.S. Army Forces Command objected because PVS would take away its Apache flying hour funds, which would limit its flexibility to use O&M savings on the Apache to pay for other needs, and because PVS would take away the financial incentive to perform intermediate-level maintenance, which provides an expanded rotation base for helicopter mechanics.¹⁴⁴

Team Apache Systems agreed to use Corpus Christi Army Depot to perform overhauls and repairs, and to help it use better business practices to improve its repair processes. The Army decided to exclude some equipment common to other helicopters if Apache utilization was less than 10 percent of total utilization, as well as an Apache-unique gun and the Second Generation Forward

¹⁴²Jeremy Singer, "Army Issues Draft Solicitation for Controversial Outsourcing Effort," *Inside the Army*, October 26, 1998; Jeremy Singer, "United Defense Drops Out of Howitzer Fleet Management Competition," *Inside the Army*, February 8, 1999; Jeremy Singer, "Army Announces Termination of M109 Fleet Management Pilot Program," *Inside the Army*, April 19, 1999; Jeremy Singer, "Army May Revive Controversial M109 Howitzer Fleet Management Plan," *Inside the Army*, August 2, 1999; and "Summary Paper on M109 Fleet Management," *Inside the Army*, August 2, 1999.

¹⁴³George Cahlink, "Army Gives Tentative Approval to Outsourcing of Apache Support Work," *Inside the Army*, June 30, 1997.

¹⁴⁴George Cahlink, "Congress Concerned About Privatizing Apache Helicopter Maintenance," *Inside the Army*, September 1, 1997; Erin Q. Winograd, "Lobbying for Prime Vendor Support Stepped Up, But Potential Pitfall Lurks," *Inside the Army*, February 9, 1998; Daniel G. Dupont and Erin Q. Winograd, "DLA Warns of 'Significant Waste' If Its Role in Apache PVS Isn't Expanded," *Inside the Army*, April 13, 1998; and Erin Q. Winograd, "FORSCOM Officials Question Benefit of Apache Prime Vendor Support Effort," *Inside the Army*, August 31, 1998.

Looking Infrared system. In addition, Team Apache Systems would be allowed to repair, but not upgrade, the Target Acquisition and Detection System and Pilot Night Vision System (TADS-PNVS). Although these changes placated some critics, they also reduced the scope for savings on the contract and reduced opportunities for modernization through spares.¹⁴⁵

The Secretary of the Army approved sole-source negotiations with Team Apache Systems in October 1997, and a "handshake agreement" was concluded in June 1998. However, the Army was still required to prepare a government cost estimate to compare with PVS, get a waiver from public-private competition, and get the final approval of the Secretary of the Army and Congress. Analyses conducted by PricewaterhouseCoopers, the Army Audit Agency, and the U.S. Army Cost and Economic Analysis Center found a cost savings from PVS, but an estimate by the Army's Program Analysis and Evaluation Directorate found that PVS was more expensive than the best-case government cost. There was also dissent within the Army over whether to proceed with PVS.¹⁴⁶

In October 1999, the conditional PVS agreement had to be abandoned when the Office of the Secretary of Defense refused to allow the Army to remove Apache spares from the Army Working Capital Fund and provide them as government-furnished property to the contractor team. Instead, OSD insisted that Team Apache Systems purchase the inventory, valued by the Army at \$200 million to \$500 million. The contractors declined, because they could not afford to purchase the stock and meet the flying hour price negotiated under the conditional agreement. Although the Army attempted to overcome this impasse by developing proposals that the contractors buy spares as needed from the AWCF or replace the parts "in kind" with repaired or upgraded items, it has since abandoned the PVS concept. Instead, the Army has signed separate support contracts with General Electric for the T700 engine and with Boeing for the Apache airframe, and it plans to contract with Lockheed Martin to support the TADS-PNVS.¹⁴⁷

¹⁴⁵Erin Q. Winograd, "Apache Support Plan Would Not Hurt Texas Depot, Contractors Claim," *Inside the Army*, September 8, 1997; and Erin Q. Winograd, "Prime Vendor Support Details Emerge; 'Nose-to-Tail' Coverage Questioned," *Inside the Army*, November 17, 1997.

¹⁴⁶George Cahlink, "Army Set to Begin Talks for Outsourcing of Apache Maintenance Work," *Inside the Army*, October 6, 1997; Erin Q. Winograd, "Army, Team Apache Reach 'Handshake' Agreement on Prime Vendor Support," *Inside the Army*, June 29, 1998; Erin Q. Winograd, "Audit Says Apache Prime Vendor Support Saves Money—Eventually," *Inside the Army*, January 11, 1999; Erin Q. Winograd, "New Estimate Says Apache PVS Will Cost \$400 Million to Put in Place," *Inside the Army*, August 2, 1999; and Jeremy Singer, "Top Army Officials Say they Don't Want to Proceed with Apache PVS," *Inside the Army*, August 9, 1999.

¹⁴⁷Erin Q. Winograd, "Army, Industry Look for New Way to Implement Apache Support Initiative," *Inside the Army*, October 11, 1999; Erin Q. Winograd, "Army Preparing Two Prime Vendor Support Options for OSD Review," *Inside the Army*, December 27, 1999; Erin Q. Winograd, "Top Commanders to Discuss Apache Prime Vendor Support This Week," *Inside the Army*, January 10, 2000; and Marc Strass, "Army Aviation Leadership Gravely Concerned with Fleet Reliability," *Defense Daily*, October 17, 2000.

LESSONS LEARNED

In addition to the overarching lessons learned from MoD outsourcing and privatization, which are discussed in the U.K. overview section, several important issues emerge from the MoD's and the U.S. Army's experiences with logistics initiatives.

1. Internal reforms can create incentives to use logistics resources more efficiently.

Both the MoD and the U.S. Army have changed their management structures to create internal incentives to reduce support costs and make more efficient use of logistics resources, rather than relying solely on outsourcing and privatization. The MoD is establishing a joint logistics organization to promote coordination and consolidation of logistics functions, and it is beginning to make use of trading funds to create financial incentives. The U.S. Army uses working capital funds to create financial incentives and Velocity Management to promote better business practices in logistics.

2. Incumbent contractors often have an advantage in competitions for complex services.

Under contracts for complex services, such as the operation of the Royal Dockyards, incumbent contractors can gain significant information advantages over other potential bidders. In other cases, such as M109 Fleet Management and Apache Prime Vendor Support, the manufacturers of a weapon system may have an advantage over other bidders. Thus, when competition is not forthcoming, it can be important to be able to establish a productive long-term working relationship with these contractors, and to design contract incentives to reduce costs and/or improve performance over time. Other options include designing competitions to level the playing field between incumbents and other bidders, and purchasing intellectual property rights or technical data rights so that spares replenishment or repair work can be competed among third parties.

3. Contracts must be flexible to adapt to changing logistics needs.

Logistics support functions cannot be optimized to meet peacetime needs, because they must also be able to transition from peacetime to deployment. The end of the Cold War also changed the MoD's and the U.S. Army's long-term needs for logistics support. Outsourcing and privatization contracts (as well as in-house logistics providers) must be flexible enough to allow for changes in logistics needs, and to ensure that providers will be able to support increased activity during deployment. This issue is likely to become more salient with innovative PFI projects that include contractor support and contractor-employed operators, such as the Future Strategic Tanker Aircraft and Heavy Equipment Transporters. The MoD is considering using a Sponsored Reserves program,

under which contractor-employed civilians are trained as reserves and can be brought under military command during deployed operations.

4. Relationships between internal providers, contractors, and customers must be clearly defined.

Contracts for platform availability, contractor logistics support, or supply management must establish a coherent division of functions between the contractor and the customer, including whether contractor personnel will be needed to deploy with operating units. Both the logistics contractor and the customer must have the right incentives to maintain readiness and to provide cost-effective support. This issue arises in PFI contracts for logistics services, or procurement projects that include logistics services, and in the Army's M109 and Apache programs.

5. Contractors must be integrated into the military supply chain.

Deploying units cannot have a separate ordering or maintenance procedure for each weapon system or component supported by a different contractor. From the user's perspective, contractor-supported systems must be integrated seamlessly with other sources of supply and maintenance. Under Apache Prime Vendor Support, the contractor proposed a separate "Apache window" at the unit's Supply Support Activity, since Apache parts would no longer be included in the Army's working capital fund system. Creating a separate "window" for each contractor-supported weapon system or component could quickly become unmanageable. Thus, some centralized direction may be needed to ensure that when decisionmakers (such as IPTs) optimize support for an individual weapon system, they do not suboptimize the logistics system as a whole.

6. Internal cost accounting systems should be capable of providing accurate comparisons with contractor costs.

The MoD and the U.S. Army need to be able to compare contract costs with the costs of performing the same functions internally to determine whether to accept a contract, particularly when competition is not feasible or does not materialize. In many cases, government cost accounting systems are not adequate to track internal costs reliably. For example, the U.S. Army allocates a cost per Apache flying hour to Apache units, but it does not track the proportions spent on parts, contract maintenance, fuel, or savings diverted to other purposes well enough to compare with Team Apache Systems' proposed cost per flying hour for the services they would perform. In the MoD, the Resource Accounting and Budgeting, Whole Life Cost, and Cost of Ownership initiatives are intended to improve the cost information available to decisionmakers.

7. Innovative contracts are difficult to implement if too many independent decisionmakers must approve.

The U.S. Army appears to be stymied in its efforts to implement innovative outsourcing contracts by the need to reach consensus within the Army, with other DoD agencies, and with Congress. When changes are made to satisfy these independent decisionmakers, the scope for cost savings and performance improvement from outsourcing is reduced. The MoD appears to have more unified lines of authority that allow it to implement innovative outsourcing and privatization programs more easily. Previous experience with private-sector provision of support services and the need to operate within constrained budgets have increased acceptance over time. Within MoD, more responsibility has been delegated to IPT leaders to determine how to deliver what customers want. However, problems can arise on tri-service projects or when more than one budget holder is involved.

6. Comparisons and Conclusions

In this chapter, we briefly compare progress in the United States with that in the United Kingdom across the three types of initiatives described in Chapter 2: outsourcing and privatization initiatives, internal reforms, and contracting process changes. We then conclude with a summary of lessons learned from the U.K. and U.S. experiences with outsourcing and privatization.

Generally speaking, the DoD has implemented similar internal reform and contracting process initiatives but has lagged behind in moving from public-private competitions for support services to more innovative contracts that involve private-sector investment in assets used to provide those services. To make more effective use of the private sector and to gain broader political and military support, the DoD should apply some of the lessons learned from U.K. and U.S. experience.

OUTSOURCING AND PRIVATIZATION INITIATIVES

The DoD's A-76 public-private competition process is similar to Market Testing as practiced in the MoD in the 1980s. Although some "whole base" studies have been proposed in the United States, competitions are primarily aimed at single functions and allow the public-sector organization to streamline itself to compete with the private sector. The DoD has not moved toward comparing private-sector bids directly with the costs of providing existing in-house services, as the MoD did under Competing for Quality.

For the most part, contractors provide defense support services using DoD assets and facilities. The DoD does not have a program comparable to the Private Finance Initiative, under which contractors invest in assets based on a long-term contract for services. One exception is in housing, where the Military Housing Privatization Initiative allows for contractors to finance investment in housing based on income from rental payments. Nor has the United States privatized any major assets or facilities, as the MoD has done with its married quarters housing and the Royal Dockyards. However, the DoD does have some parallels with Trading into Wider Markets. For example, DoD arsenals and ammunition plants are able to rent spare capacity to private-sector firms.

INTERNAL REFORM INITIATIVES

The DoD has created several defense-wide support organizations that are comparable to MoD Executive Agencies, such as the Defense Logistics Agency, the Defense Finance and Accounting Service, and the Defense Information Systems Agency. Many of these organizations, as well as the services' wholesale logistics organizations, are financed by working capital funds, which are broadly equivalent to trading funds in the MoD. Although this funding mechanism should make DoD supplier organizations more accountable to their customers,

many DoD customers regard these organizations as inefficient and unresponsive. These problems may be due to a combination of average-cost pricing rules and the monopoly status of the supplier organizations, and they could potentially be reduced by marginal-cost or two-part pricing mechanisms or the introduction of competition between alternative in-house providers or with external providers.

The U.S. Chief Financial Officer (CFO) Act has some similarities with the United Kingdom's Resource Accounting and Budgeting, in the sense that it requires the DoD to produce auditable financial statements. However, the DoD has had difficulty in complying with the CFO Act, and it does not include a separation between current and capital budgets, or payments for the use of assets and facilities.

The DoD conducted several major reviews of defense activities in the 1990s comparable to the MoD's Strategic Defence Review, including the Bottom-Up Review in 1993, the Commission on Roles and Missions in 1994, and the Quadrennial Defense Review in 1997. However, the changes proposed by these reviews have not been as radical as the Strategic Defence Review in terms of creating joint rapid-reaction, air, and helicopter forces and a joint logistics organization, for example.

CONTRACTING PROCESS INITIATIVES

The DoD has not been as dependent as the MoD was on sole-source, noncompetitive procurement, in part because of its larger economy and larger defense budget. It has not needed initiatives comparable to the Levene Reforms or the No Acceptable Price, No Contract procedure. As DoD's procurement budget has fallen and the defense industrial base has contracted through mergers and acquisitions, however, the United States has had to take competition and industrial policy into account more explicitly in its acquisition decisions, as the MoD is doing in Restructuring the Industrial Base. For example, there has been some debate whether the Joint Strike Fighter program should be split between the two competing contractors, since a winner-take-all competition might force the loser out of the market for the foreseeable future.

The Clinton Administration's Acquisition Reform initiative shares many points in common with MoD's Smart Procurement. It emphasizes integrated product teams, early contractor involvement, and specifying outputs or "form, fit, and function" instead of inputs or detailed processes. The DoD has also reduced the use of military specifications, increased purchases of commercial off-the-shelf items whenever possible, and rewritten the Federal Acquisition Regulations to make use of more commercial-type contracting practices. However, these reforms have been aimed primarily at procurement of weapon systems and other goods, rather than services. In many cases, A-76 Performance Work Statements are still based on inputs or detailed descriptions of tasks instead of desired outputs or performance. To make more effective use of the private sector, the DoD needs to implement better contracting practices for support services.

APPLYING THE LESSONS LEARNED

The U.K. experience demonstrates that although there are many pitfalls to be avoided in contracting with the private sector for defense support services, there are also many benefits to be gained in terms of improved performance and/or lower costs. One essential ingredient in implementing more extensive private-sector involvement has been agreement among senior government, parliamentary, and military leaders. The United States has been less successful in implementing innovative outsourcing and privatization programs in part because of a lack of agreement among senior administration, congressional, and military leaders. The United States's separation of powers between the executive and legislative branches makes agreement more difficult than in a parliamentary system, but these difficulties should not be insurmountable. The DoD needs to implement better contracting practices within existing programs and regulations to demonstrate the potential for more effective private-sector involvement in defense support services.

Several recommendations that could be adopted by the DoD emerge from the lessons learned summarized at the end of each of the major sections in this report.

1. The DoD should take a long-term, strategic view of requirements and design flexible contracts that can be adapted to meet changing needs. Since the DoD's needs for housing, base operations, and logistics support are changing over time, its contracts should not lock in levels of support that might be inappropriate in the future.
2. The DoD should identify appropriate roles for contractors, i.e., where the profit motive can help create incentives to reduce costs and/or improve performance. Contractor, internal provider, and customer roles must be clearly defined and integrated both in garrison and on deployment.
3. Requirements should be defined in terms of desired outputs or performance to allow contractors the scope to propose innovative approaches. In particular, detailed military specifications for commercially available goods, such as housing, should be avoided.
4. Contractors should be selected on the basis of best value rather than lowest cost, so that tradeoffs can be made between cost and quality. Quality considerations are particularly important if they affect personnel retention or military readiness.
5. Risks should be allocated to the parties best able to bear them. In housing, for example, the DoD might best bear the risk of base closure or realignment, whereas the contractor should bear maintenance costs so that it can make tradeoffs between repair, renovation, and replacement costs.
6. Contracts should be designed to create incentives for continuous improvement, particularly when there are few potential competitors. In some cases, competition might be sufficient to ensure good performance by incumbent contractors, but the case studies in this report indicate that incumbents often have an advantage over potential competitors when complex services are being provided.

7. Accurate information on the costs and performance of contractors and internal providers is needed to compare internal and external providers, to track actual versus planned outcomes, and to create incentives for good performance.
8. The DoD should have mechanisms to share information on good contracting practices and problems to be avoided.

Appendix A: Conference Participants

U.S. PARTICIPANTS		
Name	Title	Location
The Honorable Mahlon Apgar IV, Conference Host	Assistant Secretary of the Army (Installations and Environment)	Washington, D.C.
The Honorable Richard B. Cheney, Conference Co-Chair	Chairman and Chief Executive Officer, Halliburton Company; former U.S. Secretary of Defense	Dallas, Texas
Major General Joseph W. Arbuckle	Commanding General, U.S. Army Industrial Operations Command	Rock Island, Illinois
Mr. Michael Bayer	Chairman, Army Science Board	Potomac, Maryland
Mr. Douglas P. Bennett	Managing Partner, Hudson River Partners	Washington, D.C.
Dr. David S.C. Chu	Director, Arroyo Center, RAND	Washington, D.C.
Mr. Jean S. Friedberg, Jr.	Managing Partner, Choptank Group	Columbia, Maryland
Brigadier General Robert H. Griffin	Commanding General, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division	Cincinnati, Ohio
General Richard D. Hearney (USMC, ret.)	President, Business Executives for National Security	Washington, D.C.
Mr. John A. Kelley	Special Assistant for Asset Management, Office of the Assistant Secretary of the Army (Installations and Environment)	Washington, D.C.
Mr. James T. Lipham	Program Director, Residential Communities Initiative, Office of the Assistant Secretary of the Army (Installations and Environment)	Washington, D.C.
Admiral T. Joseph Lopez (USN, ret.)	Chief Operating Officer for North and South America, Brown and Root Corporation	Arlington, Virginia
Lieutenant General Lawson W. Magruder, III	Deputy Commanding General/Chief of Staff, United States Army Forces Command	Fort McPherson, Georgia
The Honorable Bernard D. Rostker	Under Secretary of the Army	Washington, D.C.
Colonel Michael C. Ryan	Army Attaché, American Embassy	London, England
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Lieutenant Colonel Timothy S. O'Rourke	Special Assistant, Office of the Assistant Secretary of the Army (Installations and Environment)	Washington, D.C.
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Appendix B: Short Definitions of Key U.K. Initiatives and Terms

The following paragraphs give short descriptions of some important U.K. programs and initiatives. Because procurement and service delivery have been subject to many changes over the years, with each successive administration changing or renaming the activities of the one before, these programs do not directly relate to each other or follow a strict temporal sequence. In addition, there has been a great deal of overlap, with as many as 40 simultaneous management initiatives.

- **Building Down Barriers (BDB):** a precursor to the more broadly based Smart Procurement initiative that promoted engagement between a single prime contractor on the commercial side and an intelligent customer on the MoD side for management of construction projects. It calls for contracts in functional terms involving a supply chain controlled by a single, fully accountable prime contractor. Under this initiative there was a natural gravitation toward smaller numbers of larger, longer-term contracts.
- **Competing for Quality (CFQ):** a form of “market testing” (renamed in 1992) in which public-sector and private-sector entities compete to offer services to other public-sector entities. Most resulted in GOCO (Government Owned Contractor Operated) arrangements. They were initially limited to services valued at more than £5 million per year.
- **Contracting out:** purchase of services by the public sector after competitive tendering by (only) private-sector organizations, with the bids explicitly compared to public-sector costs for delivering similar services.
- **Customer Charter:** a device first promoted under the Major Government whereby public organizations would make explicit agreements on the quantity, quality, and other characteristics of services. Private organizations that assumed service delivery obligations (for example, under a PFI arrangement) should draft and fulfill similar agreements. This is closely related to the Customer Supplier and Service Level Agreements that serve in lieu of contracts for agencies.
- **Customer Supplier Agreements:** see Customer Charter.
- **EU Procurement Directives:** the MoD, like all public bodies in the EU, is bound (with some exceptions) by a number of EU requirements. There are three so-called Procurement Directives (covering goods, services, and major installations). They define a small number of acceptable tendering models; the default is the so-called open procedure whereby invitations to tender must be issued and bids accepted throughout the EU; under certain conditions a “restricted procedure” may be used to limit invitations to a short list of prequalified vendors. There are two relevant “opt out” provisions: tenders below specific value thresholds are exempt, and there is

a specific provision (the “Article 229 exemption”) for tenders raising specific national security concerns.

- **Executive Agencies:** MoD organizations that provide services to others under a Customer Supplier or Service Level Agreement. Agency status is adopted after other options (abolition, privatization, contracting out, market testing, rationalization or merger) are considered, and is subject to output, financial, and quality-of-service targets and periodic review. *Vote-funded agencies* negotiate responsibilities with the client but receive funding through the MoD budget, while *trading fund agencies* contract explicitly for service delivery and are paid by customers for their performance.
- **Frame Budgeting:** an arrangement whereby spending ministries (such as MoD) negotiate an overall budget with HM Treasury but retain latitude for reallocating within budget categories during the year. The significance of frame budgeting lies in the fact that many of the private market initiatives either came from or were approved and transformed by HM Treasury. This meant that they became part of MoD’s Public Service Agreements and were assessed as part of the negotiations over the following year’s budget.
- **Incremental Acquisition:** see Smart Procurement.
- **Market testing:** this program began in the early 1980s and involved either a competition between private- and public-sector bidders or a comparison of private-sector bids with public-sector costs for the same service.
- **Modern Public Services:** a 1998 initiative to improve the screening of activities with an eye to abolition, privatization, contracting out, or agency status. It contains guidance for market testing, contracting out, and PFI/PPP options.
- **No Acceptable Price, No Contract (NAPNOC):** a contracting procedure roughly analogous to a reservation price designed to protect MoD against contractor opportunism in situations where competition cannot be implemented.
- **Partnering:** a process of public-private engagement that intends to make the (private) supplier the first choice of the (public) customer. Competition is required to select the provider and is expected again at periodic intervals in the future. There should be a clear contractual frame establishing rights, responsibilities, and recourse on both sides, and laying out unambiguous, measurable, and relevant progress milestones.
- **Partnerships for prosperity:** a 1997 set of guidelines on dealing with private partners covering a wide range of issues, especially risk transfer.
- **Private Finance Initiatives (PFI):** projects in which the public sector purchases services from private organizations, which are responsible for upfront investment in capital assets and their subsequent operation, support, and maintenance. Services are paid for as and when delivered, and MoD does not own the assets. Motivations for PFI have included raising private money to pay for investment, shifting asset ownership off government books, risk transfer, and private-sector service efficiency. It remains the case that a wide range of services and investments must be evaluated as potential PFI projects before they can be offered by public-sector organizations.

- **Privatization:** an arrangement whereby responsibilities for service delivery and asset ownership are both transferred from public to private organizations.
- **Public-Private Partnerships (PPP):** this covers a variety of initiatives involving public and private parties, including: the Private Finance Initiative (PFI); contracting out; market testing (when it results in outsourcing); joint ventures; benchmarking; linkage; and public-private collaborations.
- **Public-Sector Benchmarking:** in addition to the Executive Agencies, the Next Steps initiative included a project to encourage self-assessment by use of the European Foundation for Quality Management (EFQM) or Business Excellence Model. The results of large-scale pilots encouraged agencies to share "best practice" and are maintained in a central database. Recently, the project has been extended on a voluntary basis from agencies to all public-sector organizations, and an assessment assistance framework contract was drawn up with four suppliers.
- **Public Service Agreements (PSAs):** see Customer Charter.
- **Service Level Agreements (SLAs):** like public service agreements, a form of "internal contract" specifying levels of services to be delivered. SLAs were typically formed within an agency, in contrast to PSAs, which are typically formed between an agency and its customers.
- **Smart Procurement:** a program that originated in the 1998 Strategic Defence Review as a means of ensuring that MoD procurement activities were arranged in a manner that provided Value for Money (VFM—another government watchword, associated most prominently with the National Audit Office and HM Treasury). The Smart Procurement program includes the prime contractor model, supply chain management (even where prime contracting was inappropriate), concrete procedures for making outsourcing decisions, and, crucially, public-private "integrated product teams" involved with decisionmaking and monitoring from initial specification to contract termination or rebidding.
- **Trading into Wider Markets:** guidance for commercial exploitation of departments' assets, intellectual property, data, and skills. Marketing of complex undertakings is to be undertaken with private partners (as part of the PPP initiative). Department incentives include the right to retain revenues. Risks to core objectives resulting from financial shortfalls or diversion of human and physical assets must be avoided.
- **Transfer of Undertakings (Protection of Employment) Regulations (TUPE):** an implementation of an EU social policy requirement protecting so-called acquired rights of employees and limiting the extent to which they can be fired after transfer of their activities to a private party.

Appendix C: MoD PFI Contracts

Table C.1
Completed (Signed) MoD PFI Contracts FY95–96 to FY00–01

Name	Description	Estimated Public-Sector Capital Cost
FY95–FY96		
Germany White Fleet	Provision of support vehicles in Germany	£52 million
Other		30 million
FY96–FY97		
DHFS	Provision of helicopter training services	118 million
HSIS Safety Datasheets	Provision of a Hazardous Stores information system	1 million
LISA	Partnering arrangement to provide IS systems for Quartermaster General	30 million
MHE Vehicles	Provision of materiel-handling equipment (MHE)	8 million
Nelson	Partnering arrangement at HMS Nelson, Portsmouth	20 million
NRTA	Partnering arrangement for Naval Recruiting and Training Agency	0
RAF White Fleet	Provision of support vehicles for RAF	35 million
TAFMIS	Training administration and financial management information system	14 million
FY97–FY98		
Armed Forces Personnel Administration Agency	Project to implement tri-service pay, personnel, and pensions following Betts Review	150 million
Army mail	Project to link all Army IS systems (c. 30,000 users)	11 million
DFTS	Defence Fixed Telecommunications Service	70 million
Hawk Simulator	Provision of simulators to replace existing facilities at RAF Valley	10 million
MSHATF	Medium Support Helicopter Aircrew Training Facility	100 million
Tidworth	Provision of water and sewage services to Tidworth garrison	6 million

Name	Description	Estimated Public-Sector Capital Cost
FY98–FY99		
Attack Helicopter Training		£165 million
Joint Services Command and Staff College	Command and Staff College for the three services	68 million
Married Quarters at Yeovilton	Accommodation at Yeovilton for relocated aircrew of two Lynx squadrons	8 million
RAF Basic Flying Training (Bulldog Replacement)	Provision of flying training and support services for UAS and AEF tasks	30 million
RAF Cosford/Shawbury Married Quarters	Provision of accommodation for 145 service families	13 million
RAF Fylingdales (Power Station)	Provision of guaranteed power supply to the missile early warning system	7 million
RAF Lossiemouth	Redevelopment and reprovision of 279 married quarters	24 million
RAF Lyneham sewage treatment	Refurbishment of existing facilities to meet regulatory standards (population served, 7,000)	5 million
RAF Mail	Informal messaging services for RAF	12 million
FY99–FY00		
Army Foundation College	Provision of a foundation college for the Army	N/A
Central Scotland Married Quarters	Provision of accommodation for service families in Edinburgh	13 million
Fire fighting training unit	Provision of training facilities for Naval Recruiting & Training Agency	35 million
Tornado GR4 simulator	Full training package required at RAF Marham and RAF Lossiemouth, to include simulators, CBT, instructors and provision and support of facilities	65 million
FY00–FY01		
Defence Animal Centre	Redevelopment of office and residential accommodation, provision of animal husbandry services and training support	9 million
Main Building Refurbishment	Redevelopment of MoD Main Building, including temporary decant to other London buildings	175 million
Tri-Service Materials Handling Service	Tri-service project for provision of remaining MHE fleet	39–50 million

SOURCE: Ministry of Defence, "Ministry of Defence: PFI Projects," MoD Web page, <http://www.mod.uk/commercial/pfi/database.htm>, downloaded October 16, 2000.

Appendix D: Case Studies of Two PFI Contracts

Two specific examples of PFI projects completed in the United Kingdom involve the Army Training and Recruiting Agency and the Medium Support Helicopter Aircrew Training Facility.¹⁴⁸

THE TAFMIS MANAGEMENT INFORMATION SYSTEM

The Army Training and Recruiting Agency (ATRA) is responsible for recruitment and delivery of officer and enlisted training. A PFI deal was used to provide a training administration and financial management information system (TAFMIS). The agency actively sought a strategic partner to help it through a process of major change and beyond. Selection criteria included technical competence, quality of service, flexibility, a willingness to establish a partnership culture, and the capability to manage a program of major change. The contract was awarded to EDS Defence Ltd in August 1996.

Three key lessons were learned during the procurement process. Ideally, ATRA would have liked to have three bidders and would seek this number in future procurements, compared to the two bidders for this contract. The Public-sector Comparator (i.e., cost estimate) was released partway through the negotiations. This was viewed as the correct decision; it set bidders' expectations realistically at the optimum stage in the procurement. Initially, the TAFMIS team included a form of transfer payment in the PFI offer. During the negotiations it became clear that this payment would not contribute to risk transfer and value for money, and it was dropped.

Since the award of the contract, a number of unforeseen or totally new issues have had to be resolved. The experiences of the TAFMIS team suggest four major factors for success.

- **Procurement priorities.** Effort spent on developing the pricing model and defining service levels was worthwhile; more rigorous quality assurance of the meaning of the contract would have achieved better understanding.
- **Contract terms.** The contract achieves flexibility and places emphasis on IT service delivery; however, the detail of planning information and service acceptance testing could be improved.
- **Partnership.** A strong working relationship was established from the outset, and personnel involved in the project have been retained.
- **Managing change.** There have been some difficulties introducing the business changes resulting from contract implementation.

However, the principal objective of the contract has been realized; a positive spirit of partnership developed between the organizations and the individuals

¹⁴⁸Based on case study material in Ministry of Defence, *PFI Guidelines for MoD*, op. cit.

involved, building on relationships formed during precontract negotiations. This is proving to be key to the successful implementation of the agreement. Value for money is expected from the IT services, and both parties see the venture as "win-win."

THE MEDIUM SUPPORT HELICOPTER AIRCREW TRAINING FACILITY (MSHATF)

The PFI contract for long-term delivery of RAF Support Helicopter aircrew training was awarded on 16 October 1997 to CVS Aircrew Training plc. CVS will design, build, maintain, finance, and operate the facility to provide the required training service. They will own the facility and be responsible for employment of instructors and availability of the service for up to 40 years. MoD has the right to terminate the contract without compensation on at least 2 years notice, expiring any time after the 20th year.

The contract provides comprehensive simulator and classroom-based aircrew training for the Support Helicopter fleet, whose primary mission is to provide logistics support to ground forces. All simulators and other training are co-located in an integrated facility (at RAF Benson), which started operation in the summer of 1999. The full training service, utilizing six integrated helicopter simulators and classrooms with computer-based trainers, is scheduled to start mid-2001, providing aircraft-type conversion training, continuation training for squadron crews, and ultimately mission rehearsals for crews prior to operational deployment.

Issues that had to be addressed by the MoD included the following:

- **Siting on military land.** Because the facility is located at RAF Benson, MoD is CVS's customer and landlord, as well as the owner/occupier of the land on which the facility will be located. Because MoD's activities could affect the contractor's performance, MoD had to agree to provide the contractor relief from obligations it could not meet as a result of any unreasonable MoD acts or omissions. These concessions would not have been necessary had the facility not been located on MoD land.
- **Use of advisers on the integrated project team.** Specialist external financial and legal advisers hired for the project had to be coordinated, and specialists had to understand the project as a whole and the context of their advice. Such advisers were involved as full team members, attending briefings and participating in coordination and planning.
- **Negotiation planning.** Detailed negotiation briefs were prepared and key points discussed with relevant stakeholders. This gave the team freedom to negotiate within agreed parameters and swiftly agree on solutions.
- **Project timetable.** The project team adhered to an outline timetable that was issued to bidders early in the process. This enabled parties to plan their work but required commitment on both sides. Bidders were rushed at some points, most notably at the best and final offer stage. The contractor and its lenders faced a considerable workload between preferred bidder selection and contract award; a realistic and achievable

timetable for this period should be agreed upon at the earliest opportunity.

- **Decisionmaking authority.** A key factor in meeting the timetable on the MoD side was minimizing approval delay. The project manager reviewed approval and authorization requirements well in advance, making special arrangements with many individuals involved, often for simultaneous clearance by people who would normally have given consecutive approvals.
- **Use of a reference bid.** The Combined Operational Effectiveness and Investment Appraisal demonstrated various ways to meet the training requirement. It proved useful in the MSHATF project to ask bidders to submit a reference ("standard") bid and then allow them to propose technical or commercial variants. All bidders could then be compared on the basis of the standard bids, and the value for money of variant proposals could subsequently be compared to the standard. Some variants gave a useful indicator of the cost of risk transfer; others (e.g., some technical variants) caused little financial impact, suggesting that prolonged evaluation was unnecessary.
- **Involving lenders in the procurement process.** When third-party lenders are financing a project, the risks they are willing to accept are likely to differ significantly from those acceptable to the firm performing the work. To give third-party financiers a sound understanding of the project, it is helpful to involve them early in the process. In any event, the MoD needs to rely on its own financial and legal advisers and their interpretation of the feedback being supplied by their counterparts on the bidder's side.
- **Combining commercial and financial closings.** In this project, the commercial and financial contract closings were combined. This enabled the commercial and financial agreements to be looked at as a package in negotiations, with the result that compromises could be reached with minimal impact on the overall agreement.
- **Learning about acceptable contractual terms.** Because flight simulators had not previously been the subject of PFI or similar deals, tendering and negotiation were used to test the acceptability of contractual terms. It should now be possible to save time and expense on future PFI projects by moving more quickly to positions reached in MSHATF negotiations. To some extent this has already happened with Hawk and Tornado training system projects.
- **Risk transfer.** An element of usage risk was transferred in this contract because MoD had no wish to limit the use of the facility by its own staff (on the basis that training on the simulator would be cheaper and safer than training on aircraft). Moreover, a potential third-party market for the service exists, subject to MoD booking priority and restrictions on parties to whom the service could be sold.
- **Project financing.** The mixture of technical issues and innovative risk allocation meant that project financing of such an agreement required a level of supporting work and due diligence by all parties that may not be

cost-effective in small projects, although partial contract standardization could help. Project financing on a non- or limited-recourse basis¹⁴⁹ is vital to maintaining both competition and the flow of PFI deals, especially in markets with few suppliers. The existence of significant debt on the balance sheets of particular suppliers or large contingent liabilities requiring disclosure limits their ability to do future PFI business.

In this case, the overall project financing structure and other contractual arrangements, such as shareholder support agreements, supplemented the confidence provided by conventional procurement guarantees and company security arrangements. The lenders' due diligence and the attention paid to future problems before the contract was signed created additional confidence. For example, requiring significant subcontracts to be signed alongside the main agreement was time consuming, but it enabled the contractor to "hit the ground running" upon contract award. In addition, the lease of land at RAF Benson was granted and planning approval for the facility was obtained several months ahead of time. This "multitasking" increases the likelihood of services being delivered on time.

¹⁴⁹Non- or limited-recourse finance entails creating a special purpose vehicle company that uses equity funding from sponsor shareholders to obtain debt finance with only limited (if any) direct guarantees in the event that project cash flows cannot service the debt.

Appendix E: MoD Executive Agencies

Table E.1
MoD Executive Agencies as of December 1999

Agency (trading fund agencies in bold)	Launch Date	Staff	Operating Costs (£million)
Armed Forces Personnel Administration Agency	4/1/97	326	70.3
Army Base Repair Organisation	4/1/93	2,701	282.0
Army Personnel Centre	12/2/96	1,246	4.6
Army Technical Support Agency	10/16/95	1,098	40.7
Army Training and Recruiting Agency (formerly Army Individual Training Organisation, launched 4/1/96; absorbed Defence Animal Centre 4/1/99)	7/1/97	10,369	815.5
British Forces Post Office (formerly Defence Postal and Courier Service, launched 7/1/92)	7/1/99	567	29.6
Defence Analytical Services Agency	7/1/92	111	5.9
Defence Aviation Repair Agency (formed from the Naval Aviation Repair Organisation and part of the RAF Maintenance Group Defence Agency)	4/1/99	6,825	180.0
Defence Bills Agency	1/1/96	650	17.1
Defence Clothing and Textiles Agency	11/22/94	547	46.3
Defence Communications Services Agency	4/1/98	1,498	516.9
Defence Dental Agency	3/1/96	924	44.0
Defence Estates (formerly Defence Estate Organisation, launched 3/17/97)	3/29/99	1,259	78.6
Defence Evaluation and Research Agency (formed from Defence Research Agency, launched 4/1/91, trading funded as of 4/1/93, and other MoD divisions)	4/3/95	11,593	1,000.0
Defence Housing Executive	4/1/99	1,272	372.8
Defence Intelligence and Security Centre	10/1/96	484	27.0
Defence Medical Training Organisation	4/1/97	363	23.2
Defence Procurement Agency	4/1/99	5,500	6,300.0 ^a
Defence Secondary Care Agency	4/30/96	2,490	131.3
Defence Storage and Distribution Agency (formed from Army Base Storage and Distribution Agency, part of RAF Maintenance Group Defence Agency, and other elements)	4/1/99	4,017	108.0
Defence Transport and Movements Agency (formed from Defence Transport and Movements Executive, launched 4/4/95; Air Movements Executive; and Joint Transport and Movements Staff)	4/1/99	328	83.7

Agency (trading fund agencies in bold)	Launch Date	Staff	Operating Costs (£ million)
Defence Vetting Agency	4/1/97	347	10.6
Disposal Sales Agency	10/3/94	79	3.4
Duke of York's Royal Military School	4/1/92	101	6.4
Joint Air Reconnaissance Intelligence Centre	4/19/96	465	20.7
Logistic Information Systems Agency	11/21/94	244	19.2
Medical Supply Agency	2/29/96	334	34.6
Meteorological Office	4/2/90	2,204	153.0
(relaunched as trading fund 4/1/96)			
Military Survey Defence Agency	4/2/91	1,078	91.4
Ministry of Defence Police	4/1/96	3,909	165.2
Naval Bases and Supply Agency	12/11/96	10,361	549.0
Naval Manning Agency	7/1/96	282	12.6
Naval Recruiting and Training Agency	4/1/95	5,297	299.8
Pay and Personnel Agency	2/1/96	780	25.0
Queen Victoria School	4/1/92	75	3.8
RAF Logistic Support Services (absorbed Defence Codification Agency 4/1/99)	12/9/96	938	50.1
RAF Personnel Management Agency	2/1/97	488	17.7
RAF Signals Engineering Establishment	11/22/94	978	40.2
RAF Training Group Defence Agency	4/1/94	5,676	777.4
Service Children's Education Agency (formerly Service Children's Schools (North West Europe), launched 4/24/91)	4/1/96	1,610	75.1
Ships Support Agency	12/11/96	2,881	1,770.4
UK Hydrographic Office	4/6/90	830	43.6
(relaunched as trading fund 4/1/96)			

SOURCE: MoD, *Performance Report 1998-99*, Annex K: Defence Agencies, downloaded from <http://www.mod.uk/index.php3?page=782>, October 16, 2000, and Defence Evaluation and Research Agency, "Foreword to the Accounts," *Annual Report and Accounts 1998/99*, July 1999, downloaded from http://www.dera.gov.uk/html/whoweare/report99/accounts/foreword_to_the_accounts.htm, January 5, 2001.

^aIncluding procurement.

Appendix F: Privatization of MoD Married Quarters Housing

The decision to privatize the bulk of the MoD's married quarters housing was made in August 1994.¹⁵⁰ NatWest Markets was hired in November 1994 to develop a proposed structure for the sale. It recommended that the housing be sold as one large portfolio to a single purchaser rather than in smaller disposals over time. The reasons given for a single sale were:

1. It would be simpler, quicker, and cheaper to implement.
2. It would be more attractive to some potential purchasers, such as investment banks and overseas investors, because it would diversify the risk that any individual site would be released by the MoD, although some potential purchasers might have difficulty in financing such a large deal.
3. It would avoid the likelihood that the MoD would be left with some relatively undesirable sites that might be difficult to sell.

The sale involved 57,400 housing units in England and Wales.¹⁵¹ Approximately 2,400 of the units were surplus and would be immediately available for sale by the new owners. The remaining units were sold on 999-year leases (one for each of 739 sites), to be leased back to the MoD on 200-year underleases. The initial rent was set at £28 million per quarter (or £111 million per year), with a rolling program of rent reviews at five-year intervals, based on local market rent comparisons. The rent paid by MoD incorporates a discount to reflect MoD's responsibility for maintenance of the housing, as well as other factors.¹⁵²

To reduce bidders' uncertainty about the rate at which MoD would vacate and release housing for sale, the MoD guaranteed that it would surrender a minimum of approximately 700 units per year for the first 25 years of the underleases, and it also set minimum rental payments for the first 25 years. The minimum rental payments decline steadily from £107 million in the first year to just under £40 million in the 25th year. The maximum number of units that could be released depends on assumptions about the rate of increase in rental

¹⁵⁰This appendix is based primarily on the U.K. National Audit Office's description of the sale. See National Audit Office, *The Sale of the Married Quarters Estate*, HC 239 Session 1997-98, August 1997.

¹⁵¹Married quarters housing in Northern Ireland was excluded for security reasons; housing in Scotland was excluded because Scottish law prohibits residential property leases of more than 20 years, with no right of renewal by the tenant. Approximately 6,300 units in England and Wales were excluded, 1,500 already in the process of being sold or leased to the private sector, 3,000 being used by visiting U.S. forces, and official service residences that could not be physically separated from surrounding nonresidential facilities.

¹⁵²The rent paid by MoD reflects a 58 percent discount relative to ordinary market rents, of which 28 percent reflects the MoD's responsibility for maintenance, 20 percent reflects the wholesale nature of the leases and MoD's quality as a tenant (i.e., low probability of default), and 10 percent reflects the benefit of guaranteed payments under the first 25 years of the underleases.

costs, including inflation. Up to 2,000 units per year could be released, assuming a 2–3 percent annual increase in rents. For its own appraisal of the sale, the MoD assumed a 3 percent annual increase in rents and a release of 1,000 housing units per year for the first 25 years. The MoD has the right to release housing to the contractor for resale by terminating its underleases at any time with six months' notice.¹⁵³

If the MoD chooses to release housing units in secure areas,¹⁵⁴ it must provide new access roads, realign security fences, and carry out other construction necessary to give the new owners access without passing through secure areas. The MoD must also continue to provide utilities to housing units that are dependent on related military bases, as long as it continues to lease more than 25 percent of the units at the affected sites. This provision affects about a third of the privatized units, including those in secure areas.

The new owners also have the right to terminate underleases at breakpoints falling between the 25th and 28th year, and every 15 years thereafter, except for sites located within secure areas. They must either offer comparable alternative accommodation (based on commuting time, standard of nearby schools, and job opportunities for spouses) or demonstrate the intention and the ability to redevelop the site. If the underlease is broken for redevelopment, the MoD would be able to remain on the site for 30 months (effectively ensuring a minimum of 4 years' notice) and would be entitled to 2 years' rent in compensation. The MoD can also veto a termination for redevelopment if it would severely prejudice the operational effectiveness of the associated military base.

If the new owners make an unexpectedly high profit on released units, the contract includes a "clawback" provision that returns a share of these profits to the MoD. Profits are calculated net of allowable costs, which are indexed for inflation. The first £4.5 million in profits, or 15 percent of allowable costs, whichever is lower, are exempt from the clawback. The clawback declines from 50 percent of above-normal profits in the first year to 10 percent in the 15th year. Profits earned after the 15th year are exempt from the clawback.¹⁵⁵

The DHE is responsible for maintaining and upgrading houses leased back from the new owners, identifying surplus housing units, performing construction work needed to separate surplus sites from adjacent bases, and allocating houses to service families. The DHE also serves as the point of contact for notification and transfer of released housing units, negotiation of rent reviews, and enforcement of clawback provisions.

The MoD was advised by NatWest Markets to exclude the maintenance and upgrading of the housing from the contract for several reasons:

¹⁵³Housing released to the contractor must be in "tenantable condition." MoD can avoid its maintenance obligations only by demolishing the houses with the contractor's consent. In such circumstances, the MoD may have to pay compensation or reinstate the housing lost.

¹⁵⁴Approximately 11,000 housing units (20 percent of the original 55,000 units privatized) are in secure areas, i.e., "behind the wire."

¹⁵⁵As of August 1998, the MoD had recovered £4.8 million through clawback payments. See Ministry of Defence response to the Forty-eighth Report of the Committee of Public Accounts, *Ministry of Defence: Sale of the Married Quarters Estate*, paragraph 42.

1. Excluding maintenance would avoid overcomplicating an already novel sale transaction.
2. There was a lack of detailed and reliable historical data on the costs of maintaining the housing and its current condition, and bidders would disproportionately reduce their offers because of this uncertainty.
3. Retaining DHE responsibility for maintenance would reassure service families that maintenance standards would not decline and planned improvements would be carried out.
4. Privatizing the maintenance function could cause fragmentation between maintenance and other estate management responsibilities retained by the DHE.

However, the decision to exclude maintenance and upgrading of the housing from the contract limited risk transfer and potential management savings.

Based on the planned features of the sale, the MoD carried out the process outlined in Figure F.1. Approximately 5,500 copies of a Preliminary Information Memorandum were distributed in November 1995. The memorandum generated 43 prequalification applications, which were submitted in January 1996. A full Information Memorandum was sent to 40 bidders who passed the prequalification stage.

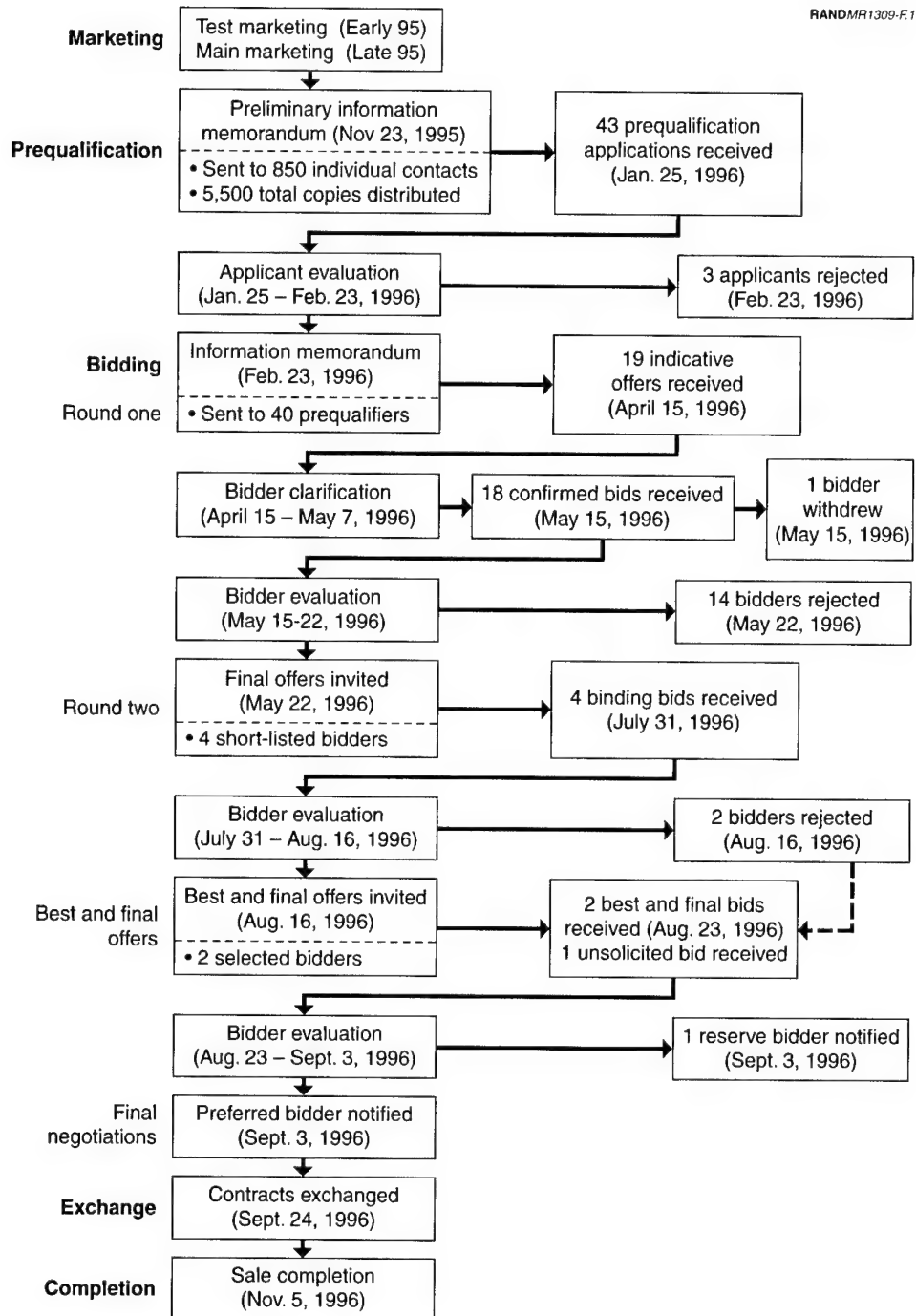
Of the 40 prequalified bidders, 19 submitted preliminary, nonbinding bids. Based on an evaluation of the preliminary bids, 4 short-listed bidders were invited to submit binding offers. The MoD also decided to ask 2 of the last 4 bidders to submit a "best and final" offer.

The evaluation criteria, which were developed by NatWest Markets, included the following:

1. Price, taking into account other factors affecting the value offered.
2. Identification, availability, and reliability of sources of finance.
3. Complexity of the bidding consortium, and whether it was formally established.
4. Ability to complete the deal within the expected timetable.
5. Consortium members' commitment to the transaction.
6. Readiness to complete the deal on the terms specified by the MoD.
7. Quality of the management team.
8. Commitment to long-term ownership of the married quarters housing.
9. Understanding of and respect for service needs and sensitivities.

Two of the highest bidders in the first round were rejected based on criteria other than price, particularly finance and deliverability. The Annington Group, which submitted the highest bid in the second round and the highest best and final offer, was selected as the preferred bidder in September 1996. The Group consisted of Nomura International plc, Amec, BlackRock UK Partners, Electra Fleming Ltd., Abbey National Treasury Services, Hambros Bank, the Midland Bank, and the Royal Bank of Scotland.

The winning bid of £1.662 billion compared favorably with external appraisals, but it was somewhat lower than the internal appraisal of continued in-house ownership, as shown in Table F.1. £100 million of the sales price was set aside to help pay an expected cost of £470 million to upgrade the privatized housing to current MoD standards. The remainder was returned to the Treasury.



SOURCE: National Audit Office, *The Sale of the Married Quarters Estate*, HC 239 Session 1997–98, August 1997, p. 25.

Figure F.1—The Married Quarters Sale Process

Table F.1
External and Internal Appraisals of Sale Value

Appraiser	Basis	Appraisal	MoD's Gain/Loss Relative to Winning Bid
Savills	Value to purchaser	£1.35–1.5 billion	+£162–312 million
NatWest Markets	Likely cash flows	£1.48 billion	+£182 million
MoD	Value of continued in-house ownership	£1.712–1.974 billion	–£77–139 million

SOURCE: National Audit Office, *The Sale of the Married Quarters Estate*, HC 239 Session 1997–98, August 1997, p. 3.

NOTE: MoD's internal valuation depends on a number of assumptions, including the rate at which properties would be released for sale, the resulting sales prices, and the realization of redevelopment value if excess properties were sold piecemeal.

Following a National Audit Office report on the sale, the Committee of Public Accounts criticized the sale because the price was below the estimated value of continued in-house ownership, and because it was primarily a financial transaction instead of a true transfer of risk and management responsibility to the private sector. The sale transfers to Annington the risks, as well as the potential rewards, of dealing with married quarters declared surplus by the MoD. However, MoD retains risks, costs, and management responsibility associated with future rental costs and continued maintenance and upgrading of the housing.¹⁵⁶

¹⁵⁶See Committee of Public Accounts, Forty-Eighth Report, *Ministry of Defence: Sale of the Married Quarters Estate*, p. vi.

Appendix G: MoD Initiatives in Construction and Property Management

MoD's initiatives to improve the management of its entire defense base holdings have resulted in new business processes. The two most prominent of these are, first, the reorganization of the administrative processes, relationships, and responsibilities between the Defence Estates (DE) and the remainder of the MoD; and second, the development of a new model for construction procurement based on "Prime Contracting."

DE was created in 1995 after the breakup of the Property Services Agency, which performed construction and maintenance management for all U.K. government agencies. DE was refocused in 1999 to provide central strategic management of the U.K. defense estate as a whole. During the 1980s, the PSA was perceived to be a very large and bureaucratic organization that did not perform well and was too closely linked to the construction industry. In the mid-1990s, MoD was spending about £1.5 billion annually on construction, but its projects were frequently over budget and behind schedule. At that time, a small Defence Works Services team existed within DE to advise MoD clients and to let contracts on their behalf. However, that team stood back from direct involvement after the contract was let. As a result of the Labour Government's Strategic Defence Review in 1998, DE was given the task of changing the business processes associated with construction and property management.¹⁵⁷

Under the old processes, capital construction work and property management services were procured separately:

- **Capital construction:** construction management was outsourced to a commercial project manager and a separate construction contractor.
- **Property management:** the supervision and execution of all maintenance and minor construction work valued at less than £240,000 were contracted out for either a three- or five-year period to separate contractors (Works Services Managers and Establishment Works Contractors, respectively).

DE's new business philosophy follows the conclusions of a recent report by Sir John Egan on government construction procurement—that improved construction industry performance should be driven by the customer through effective partnering with a single prime contractor and its supply chain. DE's Prime Contractor program involves a single contracting organization that provides overall construction and maintenance services, either directly or as part of a team with other subcontractors. Under prime contracting, construction and facilities management are outsourced but the assets being built and managed belong to the government.

¹⁵⁷Discussions between Defence Estates staff members and RAND (Ellen Pint, John Bondanella, and Jonathan Cave), November 1, 1999, Sutton Coldfield, United Kingdom.

Under the Prime Contractor program, a single contractor takes responsibility for managing all aspects of facilities projects throughout their life cycle: design, construction, operations and maintenance, management of refurbishment, etc. Prime contracting relies on the government to be a smart customer and to ask for desired outcomes or results rather than list specifications for the desired structures. It also requires the government and the contractor to decide how risk is to be shared, and to design contracts to compensate the contractor for the level of risk it assumes. These contracts are intended to be long-term—after construction is complete, the property management aspects could last for as long as three to five years.

The old DE construction management processes had very little customer input. They were characterized by multiple contractors, each of whom had little accountability, and the resulting multiple contracts increased overhead costs. The new processes rely on the establishment of integrated client teams bringing together the end user (with the requirement and the budget) and DE's commercial and technical expertise to provide a single point of accountability within the government and with the prime contractor. Further, this model is expected to reduce the overhead of administering multiple contracts.

The previous arrangements and the new prime contractor model are depicted in Figures G.1 and G.2. The new team process ensures that there is clear accountability for all phases of work, from statement of requirement through final delivery and performance.

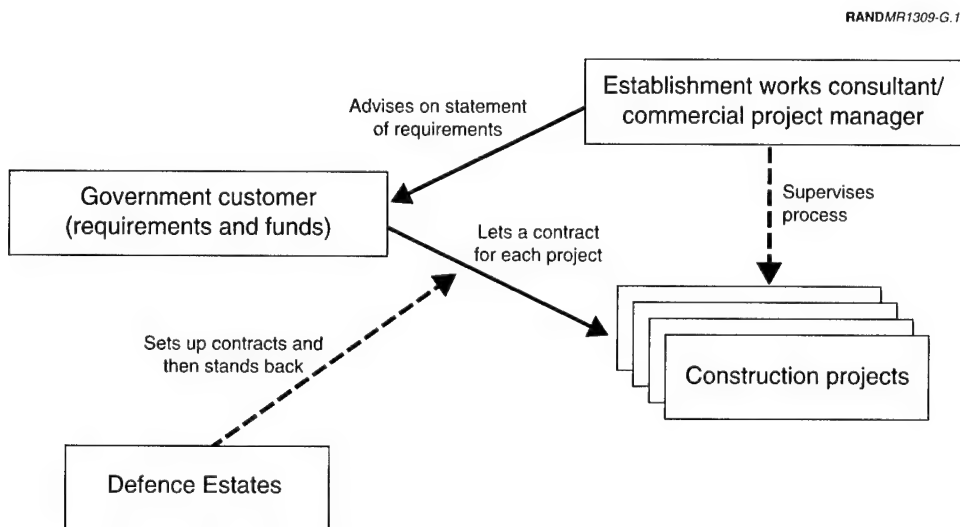


Figure G.1—Previous Construction Management Model

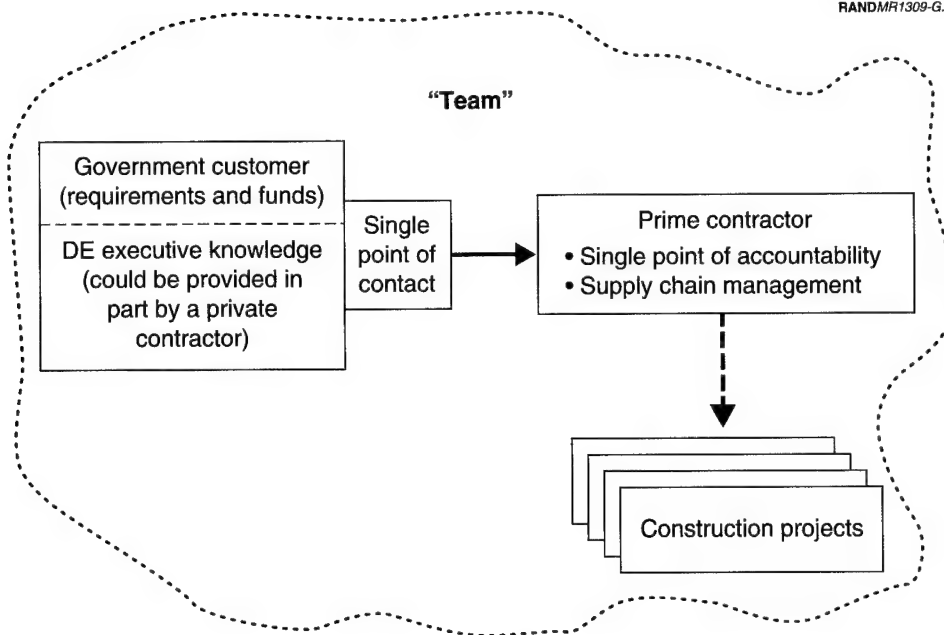


Figure G.2—Prime Contractor Construction Management Model

One anticipated major benefit of the changes in construction management is that the new process will reduce the funds spent on fees, which currently comprise up to 25 percent of all property management spending. Two pilot projects to test the new management concept have demonstrated the following performance improvements:

- Up to 60 percent reduction in labor and material costs,
- Up to 100 percent improvement in productivity,
- 18–25 percent reduction in construction time, and
- 10–14 percent reduction in life-cycle costs.¹⁵⁸

As part of the new process, DE will also be seeking to reduce the number and increase the length of contracts to permit the development of effective partnering arrangements. DE hopes to follow the model of Thames Water, a regional water utility that was privatized in 1992. Thames Water has significantly reduced the number of supplier contracts that it directly manages by using a prime contractor approach: the utility previously had 2,500 to 4,000 separate contracts, but by changing management it reduced the number of contracts to 26. Defence Estates hopes to reduce its current 800 contracts to somewhere between 80 and 100 in the future.¹⁵⁹

One current construction initiative—refurbishment of four Navy berthing facilities—is expected to cost £30 million and take five years to complete. Using

¹⁵⁸Defence Estates, “Prime Contracting: Closing the Bossom Loop after 65 Years,” mimeo, undated.

¹⁵⁹Discussions between Defence Estates staff members and RAND (Ellen Pint, John Bondanella, and Jonathan Cave), November 1, 1999, Sutton Coldfield, U.K.

an integrated project team—including the government customer, DE staff, Nuclear Safety Group, a prime support provider (contractor is Babtie Group), and other technical personnel—DE estimates that it has saved 7.3 percent just in the cost of letting the contract (£2.03 million for the Prime Contractor approach versus £2.19 million for traditional contracting).¹⁶⁰

Another aspect of the Prime Contractor initiative is that the funds remain in the customer's control, not in the hands of DE. This provides the foundation for a "smart customer," and it helps keep the focus on the outcome of the project. The initiative provides no new funding, but it attempts to get the maximum benefit for the funds allocated. DE is also evaluating the use of financial performance incentives. For example, in construction projects, DE could create an incentive fee that benchmarks a price, and if the project is delivered below that price, the customer and the contractor share the difference.¹⁶¹

There have been three major obstacles to implementing the construction and property management initiatives:¹⁶²

1. A tendency among government staff to tell the contractor *how* to do something rather than focusing on the output they require.
2. Resistance to new ideas as "not invented here."
3. Past contractor behavior of underbidding projects and then trying to recover costs later, often through lawsuits or "variation orders," which arise from unclear initial specifications.

The MoD is trying to overcome the third problem by emphasizing "best value" rather than lowest cost in source-selection criteria, although historically, more than half of all projects have not been awarded to the lowest-price bidder. Improving relationships between MoD customers and contractors also involves establishing a clear and more appropriate allocation of risk at the outset, defining outcomes rather than detailed specifications, and establishing a single interface within MoD to address conflicts that arise between designers, architects, builders, and operators.

¹⁶⁰Defence Estates, *Defence Estates Fourth Customer Conference*, briefing presented October 15, 1999.

¹⁶¹This type of incentive could help overcome problems with contractors underbidding fixed-price contracts and trying to recover costs later through contract modifications, or the lack of contractor incentives to cut costs under cost-reimbursement contracts.

¹⁶²Discussions between Defence Estates staff members and RAND (Ellen Pint, John Bondanella, and Jonathan Cave), November 1, 1999, Sutton Coldfield, U.K.

Appendix H: Privatization of the Royal Dockyards

In October 1993, the MoD announced its decision to privatize the Royal Dockyards at Devonport and Rosyth.¹⁶³ The Royal Navy spends approximately £400 million per year on its refit and repair program, of which 42 percent is submarine work and 36 percent is surface ship refitting; the remainder involves Royal Fleet Auxiliaries and other vessels. Since 1987, the dockyards had been managed by Devonport Management Limited and Babcock Rosyth Defence Limited as Government Owned Contractor Operated facilities. Under the GOCO arrangements, the MoD allocated most of its refit and repair workload to the dockyards without competition: 66 percent by volume and 76 percent by value over the three fiscal years from FY94–95 to FY96–97. The remainder of the workload was let competitively between the dockyards and private shipyards. Although the MoD wanted to increase the proportion of competed workload, it was concerned that it would pay for underutilized dockyard capacity through higher overhead rates if the dockyards' capacity were not fully utilized.

One of the purposes of the privatization was therefore to promote competition for surface ship refitting, in addition to generating cost savings on future refitting work, transferring liabilities to the new owners, and maintaining the Royal Navy's capability to refit nuclear submarines. Due to reductions in forces after the end of the Cold War, the MoD decided to concentrate all submarine work at one dockyard. In 1991, it was estimated that this decision, combined with competition for all surface ship work, would save £300 million to £700 million over 10 years.¹⁶⁴ Devonport Management and Babcock Rosyth were both asked to submit proposals for future nuclear refitting work in 1991. Although a decision had been made in 1984 to locate Trident submarine work at Rosyth and construction of new facilities had already begun there, the MoD decided to locate all submarine work at Devonport, based on an estimated £64 million savings relative to Rosyth. This decision was finalized in September 1993, immediately before the privatization plan was announced. The MoD determined that the new owner of Devonport should also be the project manager for the necessary major upgrade work on its submarine refitting facilities, based on MoD's experience with cost and schedule overruns on the Trident Works Programme.¹⁶⁵

¹⁶³This description of the Royal Dockyards privatization is based primarily on National Audit Office, Report by the Comptroller and Auditor General, *Ministry of Defence: Sales of the Royal Dockyards*, HC 748 Session 1997–98, June 3, 1998.

¹⁶⁴The forecasted volume of submarine work was one submarine refit initiated each year, with each refit lasting more than two years. Since there is minimal alternative use for submarine refitting and refueling facilities, the dockyard losing the competition would have to maintain idle capacity until the next competition. Therefore, maintaining competition for submarine work was not feasible (National Audit Office, 1998, p. 16).

¹⁶⁵The Trident Works Programme, which provides operational facilities for submarines on the Clyde River, including a shiplift and an explosives-handling jetty, involves similar nuclear safety issues and continued operations during construction. Some of its problems were attributed to a

Since submarine work at Rosyth was scheduled to end in 1997, Devonport was likely to have a cost advantage over Rosyth in the short term. The MoD therefore decided to allocate a tapering program of surface ship work through FY05–06 to Rosyth without competition. Although the costs of allocating the work rather than competing it are expected to be £50 million higher, the MoD judged that it should assist Rosyth through the transition period in order to establish a competitive environment, and thus lower refit prices for the Royal Navy in the long term.

With the help of external advisors from Coopers & Lybrand, the MoD tried to stimulate interest in the privatization through advertising and direct contacts with potential bidders. Although 12 Stage I Invitations to Tender were issued for Devonport and 11 for Rosyth, only the incumbent contractors submitted bids, each for the dockyard they were already operating. The MoD and some of the potential bidders cited the following four factors that favored the incumbents:

1. A perceived advantage held by the two companies already managing the dockyards;
2. Potential bidders' unfamiliarity with warship and submarine refitting, and the scale of potential layoffs and environmental liabilities;
3. Concerns over the stability of the refit program, and the MoD's long-term goal of ending allocated work at Rosyth; and
4. Potential bidders had other priorities, including consolidation and mergers in the defense industry following the end of the Cold War.

After Stage I bids were submitted in October 1994, each company was asked to submit a Stage II bid in March 1995 and a Stage III bid in August 1995. The MoD had hoped to conclude the privatization in 1995, but due to the lack of competition, a period of protracted negotiations ensued with each of the companies, during which the GOCO contracts were extended. The Devonport negotiations were further complicated by Devonport Management's parallel bid for the upgrade of the submarine facilities, which the MoD originally judged to be deficient. Circumstances also continued to change during the negotiation period, necessitating changes in the bids. Because of delays in upgrading the submarine docks at Devonport and an increase in the time needed to refit each submarine, in August 1995, MoD transferred some of Devonport's allocated submarine work to Rosyth, extending its submarine program into 2002; transferred some of Rosyth's allocated surface ship work to Devonport; and transferred four major warships from competed to allocated workload, extending Rosyth's allocated workload from FY05–06 to FY07–08.

The negotiations involved complex tradeoffs between the sale price of the dockyards, the future costs of refit work, and the costs of assuming liability for layoffs, due to very generous severance pay agreements with the workforce as former government employees.¹⁶⁶ For example, a higher sale price creates a higher base from which to depreciate the dockyard's assets, leading to higher future refit costs; and requiring the new owners to assume more of the liability

separation between the management of the operating facility and the construction project (National Audit Office, 1998, pp. 66–67).

¹⁶⁶Under the GOCO contracts signed in 1987, the dockyard employees were transferred from the MoD to the dockyard companies, but they retained their Civil Service severance entitlements (National Audit Office, 1998, p. 40).

for layoffs would reduce the sale price or increase refit costs. The MoD also had to prepare an estimate of the costs of continued GOCO operations for comparison with expected value associated with the privatization of each dockyard, due to the lack of competition.

The Rosyth sale was completed in January 1997, and the Devonport sale was completed in March 1997. The gross sale price for Rosyth was £27.0 million, but MoD deducted £6.5 million in exchange for Babcock Rosyth's agreement to accept all severance liabilities from 2006 onward, and it allowed the company to defer payment of £6 million until it had received 70 percent of its allocated work, expected to occur in 2001–2002. The present value of the deferred payment was approximately £4.9 million, so the MoD received a cash value of £19.4 million for Rosyth dockyard. The asset base for depreciation purposes was set at the full £27 million.

The sale price for Devonport was set at £40.3 million, after deducting £3 million in exchange for Devonport Management's agreement to accept liability for layoffs on commercial work and MoD's competed workload. However, the asset base for depreciation purposes was set at £73 million, approximately £33 million (or 83 percent) more than the agreed sale price. The revaluation also had the effect of increasing the company's allowed profit rate under the Government Profit Formula from 5.65 percent to 8.3 percent. The MoD accepted this arrangement because Devonport Management argued that the cash flows that would have been generated from a lower fixed asset value were not sufficient to fund anticipated capital expenditures.

The sale agreements also specified hourly rates for refit work for an initial contract period. At Devonport, firm hourly rates (under which the company bears all inflation risk) were set for the first two years, and fixed hourly rates (which are adjusted for inflation) were set for the next three years. Based on these rates, the MoD should have cumulative savings of 9 percent over the first five years, with a savings-sharing arrangement if savings are higher. A new contract for hourly rates will be negotiated at the end of the five-year period. At Rosyth, firm hourly rates were set for the first year and fixed hourly rates for the next three years. Target hourly rates based on projected productivity improvements and overhead reductions were set for the following six years, with a cumulative reduction of 40 percent over the full 10 years. If Babcock Rosyth is unable to achieve these targets, the MoD can withdraw some of its allocated workload.

At Rosyth, the liability for severance payments was estimated at £118 million at the time of the sale. By 2006, when Babcock Rosyth agreed to accept the liability, it is expected to have fallen to £16 million. However, this reduction in liability was based on a £48 million payment from MoD to the Rosyth workforce in 1997 in exchange for giving up 45 percent of their entitlement through 2004, and 72.5 percent after 2006.¹⁶⁷ The MoD also retains a liability of approximately £29 million through 2006. At Devonport, the total liability for severance payments was estimated at £147 million in 1997. Devonport Management

¹⁶⁷The average payment to the 3,300 employees was between £8,000 and £10,000, but a small number of employees received payments of up to £100,000 (National Audit Office, 1998, p. 41).

accepted a liability of £15 million for employees engaged on MoD's competed workload and on commercial work. MoD retains a liability of approximately £132 million for employees engaged on MoD's allocated workload.

Both of the dockyards' pension funds were in substantial surplus at the time of the sale—£63 million at Devonport and £37 million at Rosyth. Both companies agreed to reductions in the hourly rates for refits reflecting approximately two-thirds of the pension fund surplus. The MoD retains most of the environmental liabilities at the two dockyards. The MoD is responsible for any nuclear contamination arising from submarine refitting work and for decommissioning Rosyth's nuclear facilities. However, both dockyard owners are liable for the first £250,000 cost of any incident caused by omission or deliberate act. At Devonport, the MoD retains any nonnuclear environmental liabilities attributable to the period before the GOCO contract in 1987. At Rosyth, the MoD is liable for the nonnuclear "West Tip," which contains unknown quantities of waste materials arising from dockyard operations over the past 50 years. All other nonnuclear environmental liabilities (including some pre-1997 liabilities) have been transferred to Babcock Rosyth.

The sale contracts included "clawback" provisions in the event that the new owners sell assets or shares in the facilities at a profit. If the owners sell any assets for nonindustrial use, the MoD will be entitled to a share of any enhanced value. At Devonport, the clawback starts at 80 percent and reduces to zero over 10 years. At Rosyth, the clawback starts at 65 percent and reduces to zero over 12 years. There is no clawback if the owners sell the assets for continued industrial use. The MoD is also entitled to a proportion of any profit made by the dockyard owners if they sell shares in the dockyards within three years: 75 percent in the first year, 50 percent in the second year, and 35 percent in the third year.

Although the negotiated sale prices were less than independent evaluations of the dockyards' assets and potential for revenue generation from MoD (see Table H.1), the MoD estimated potential savings of £40 million (3 percent) at Devonport and £118 million (10 percent) at Rosyth over a 10-year period, relative to continued GOCO operation. These savings estimates were based on assumptions about the cost reductions achieved by the new dockyard owners, capital expenditure requirements included in the bids, and annual productivity improvements and overhead reductions under GOCO operation. The National Audit Office conducted a sensitivity analysis on these assumptions and found that the total savings ranged from £56 million to £178 million, net of the £15.7 million cost of conducting the sales. Savings on each individual dockyard also remained positive in each scenario.

Following a review of the National Audit Office's report on the sales, the Public Accounts Committee expressed concern about the lack of competition, the low sale prices relative to the valuations, the revaluation of the Devonport assets to increase depreciation and profits, and the delay in increasing competition for surface ship workload.¹⁶⁸

¹⁶⁸See Committee of Public Accounts, Eighth Report, *Ministry of Defence: Sales of the Royal Dockyards*, House of Commons Session 1998–99, March 15, 1999.

Table H.1
Valuations of the Dockyards

Evaluator	Year	Basis	Devonport	Rosyth
Fuller Peiser	1996	Value of fixed assets	£97 million	£50 million
Coopers & Lybrand	1994	Revenue generation from MoD refit program	£90.8 million	£30.3 million
Dockyard companies	1997	Negotiated sale price	£40.3 million	£19.4 million

SOURCE: National Audit Office, *Sales of the Royal Dockyards*, HC 748 Session 1997–98, June 1998, p. 24.

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The U.S. Department of Defense and the U.K. Ministry of Defence (MoD) face a common challenge: to modernize their forces to meet changing military threats under reduced budgets. To meet this challenge, both organizations are increasingly interested in leveraging private-sector capital and expertise to provide defense activities and support services. This report provides an overview of the progress made so far. It describes outsourcing and privatization initiatives in the United Kingdom from 1980 to the present. It then details how these initiatives have been applied to housing, base operations, and logistics services in the United Kingdom and offers examples of comparable U.S. Army initiatives.

This report is based on background materials prepared for a three-day conference on privatizing military installation assets, operations, and services held at Ditchley Park in Oxfordshire, England, on April 14–16, 2000. The conference was organized by the Assistant Secretary of the U.S. Army for Installations and Environment. It brought together U.S. and U.K. defense officials, U.S. Army leaders, and business executives from both countries to discuss the British experience with privatization and explore its applicability to the U.S. Army.

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